

=> d que 118

L2 6955 SEA FILE=HCAPLUS ABB=ON PLU=ON MICROREACTOR? OR MICRO(A) (REACTOR# OR (REACTION#) (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM# OR SPACE#))

L3 123 SEA FILE=HCAPLUS ABB=ON PLU=ON MICROREACTION# (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM# OR SPACE#)

L5 7004 SEA FILE=HCAPLUS ABB=ON PLU=ON L2 OR L3

L7 155 SEA FILE=HCAPLUS ABB=ON PLU=ON L5 AND MAGNET?

L8 12 SEA FILE=HCAPLUS ABB=ON PLU=ON L7 AND (ETCH? OR PATTERN?)

L9 179 SEA FILE=HCAPLUS ABB=ON PLU=ON L5 AND ?MAGNET?

L10 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L9 AND (ETCH? OR PATTERN?)

L11 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L8 OR L10

L12 QUE ABB=ON PLU=ON INLET? OR IN LET? OR OUTLET? OR OUT LET?

L13 QUE ABB=ON PLU=ON TUBE# OR TUBING# OR TUBUL? OR TUBAT? OR TUBIFORM? OR TUBELIKE? OR PIPE# OR PIPING# OR PIPELI? OR PIPETTE? OR HOSE? OR DUCT? OR CONDUIT? OR CANNULA? OR CHANNEL? OR CYLIND? OR ADJUTAG? OR FISTULA?

L14 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L11 AND L13

L15 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L11 AND L12

L16 269528 SEA FILE=HCAPLUS ABB=ON PLU=ON REACTORS+PFT,NT/CT

L17 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 AND (MAGNET?(A) (STRIP ? OR BARRIER?) OR MAGSTRIP? OR MAGBARRIER?)

L18 21 SEA FILE=HCAPLUS ABB=ON PLU=ON L11 OR L14 OR L15 OR L17

=> d que 138

L2 6955 SEA FILE=HCAPLUS ABB=ON PLU=ON MICROREACTOR? OR MICRO(A) (REACTOR# OR (REACTION#) (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM# OR SPACE#))

L3 123 SEA FILE=HCAPLUS ABB=ON PLU=ON MICROREACTION# (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM# OR SPACE#)

L12 QUE ABB=ON PLU=ON INLET? OR IN LET? OR OUTLET? OR OUT LET?

L13 QUE ABB=ON PLU=ON TUBE# OR TUBING# OR TUBUL? OR TUBAT? OR TUBIFORM? OR TUBELIKE? OR PIPE# OR PIPING# OR PIPELI? OR PIPETTE? OR HOSE? OR DUCT? OR CONDUIT? OR CANNULA? OR CHANNEL? OR CYLIND? OR ADJUTAG? OR FISTULA?

L20 1291 SEA FILE=WPIX ABB=ON PLU=ON L2 OR L3

L21 0 SEA FILE=WPIX ABB=ON PLU=ON L20 AND (MAGNET?(A) (STRIP? OR BARRIER?) OR MAGSTRIP? OR MAGBARRIER?)

L22 146 SEA FILE=WPIX ABB=ON PLU=ON L20 AND (ETCH? OR PATTERN?)

L23 44 SEA FILE=WPIX ABB=ON PLU=ON L22 AND L13

L24 3 SEA FILE=WPIX ABB=ON PLU=ON L23 AND ?MAGNET?

L25 3 SEA FILE=WPIX ABB=ON PLU=ON L21 OR L24

L29 18 SEA FILE=WPIX ABB=ON PLU=ON (REACTOR? OR REACTION# (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM?)) AND (MAGNET?(A) (STRIP? OR BARRIER?) OR MAGSTRIP? OR MAGBARRIER?)

L30 1 SEA FILE=WPIX ABB=ON PLU=ON L29 AND (ETCH? OR PATTERN?)

L31 3 SEA FILE=WPIX ABB=ON PLU=ON L29 AND (L12 OR L13)

L33 21 SEA FILE=WPIX ABB=ON PLU=ON L25 OR L29 OR L30 OR L31

L34 21 SEA FILE=WPIX ABB=ON PLU=ON (REACTOR? OR REACTION# (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM?)) AND (?MAGNET?(A) (STRIP? OR BARRIER?) OR ?MAGSTRIP? OR ?MAGBARRIER?)

L35 24 SEA FILE=WPIX ABB=ON PLU=ON L33 OR L34

L36 7 SEA FILE=WPIX ABB=ON PLU=ON L35 AND (L12 OR L13)

L37 2 SEA FILE=WPIX ABB=ON PLU=ON L35 AND LIQUID?

L38 24 SEA FILE=WPIX ABB=ON PLU=ON L35 OR L36 OR L37

=> d que 139

L2 6955 SEA FILE=HCAPLUS ABB=ON PLU=ON MICROREACTOR? OR MICRO(A) (REACTOR# OR (REACTION#) (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM# OR SPACE#))

L3 123 SEA FILE=HCAPLUS ABB=ON PLU=ON MICROREACTION# (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM# OR SPACE#)

L12 QUE ABB=ON PLU=ON INLET? OR IN LET? OR OUTLET? OR OUT LET?

L13 QUE ABB=ON PLU=ON TUBE# OR TUBING# OR TUBUL? OR TUBAT? OR TUBIFORM? OR TUBELIKE? OR PIPE# OR PIPING# OR PIPELI? OR PIPETTE? OR HOSE? OR DUCT? OR CONDUIT? OR CANNULA? OR CHANNEL? OR CYLIND? OR ADJUTAG? OR FISTULA?

L20 1291 SEA FILE=WPIX ABB=ON PLU=ON L2 OR L3

L21 0 SEA FILE=WPIX ABB=ON PLU=ON L20 AND (MAGNET?(A) (STRIP? OR BARRIER?) OR MAGSTRIP? OR MAGBARRIER?)

L22 146 SEA FILE=WPIX ABB=ON PLU=ON L20 AND (ETCH? OR PATTERN?)

L23 44 SEA FILE=WPIX ABB=ON PLU=ON L22 AND L13

L24 3 SEA FILE=WPIX ABB=ON PLU=ON L23 AND ?MAGNET?

L25 3 SEA FILE=WPIX ABB=ON PLU=ON L21 OR L24

L29 18 SEA FILE=WPIX ABB=ON PLU=ON (REACTOR? OR REACTION# (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM?)) AND (MAGNET?(A) (STRIP? OR BARRIER?) OR MAGSTRIP? OR MAGBARRIER?)

L30 1 SEA FILE=WPIX ABB=ON PLU=ON L29 AND (ETCH? OR PATTERN?)

L31 3 SEA FILE=WPIX ABB=ON PLU=ON L29 AND (L12 OR L13)

L33 21 SEA FILE=WPIX ABB=ON PLU=ON L25 OR L29 OR L30 OR L31

L34 21 SEA FILE=WPIX ABB=ON PLU=ON (REACTOR? OR REACTION# (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM?)) AND (?MAGNET?(A) (STRIP? OR BARRIER?) OR ?MAGSTRIP? OR ?MAGBARRIER?)

L35 24 SEA FILE=WPIX ABB=ON PLU=ON L33 OR L34

L36 7 SEA FILE=WPIX ABB=ON PLU=ON L35 AND (L12 OR L13)

L37 2 SEA FILE=WPIX ABB=ON PLU=ON L35 AND LIQUID?

L39 1 SEA FILE=JAPIO ABB=ON PLU=ON L35 OR L36 OR L37

=> d que 140

L2 6955 SEA FILE=HCAPLUS ABB=ON PLU=ON MICROREACTOR? OR MICRO(A) (REACTOR# OR (REACTION#) (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM# OR SPACE#))

L3 123 SEA FILE=HCAPLUS ABB=ON PLU=ON MICROREACTION# (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM# OR SPACE#)

L12 QUE ABB=ON PLU=ON INLET? OR IN LET? OR OUTLET? OR OUT LET?

L13 QUE ABB=ON PLU=ON TUBE# OR TUBING# OR TUBUL? OR TUBAT? OR TUBIFORM? OR TUBELIKE? OR PIPE# OR PIPING# OR PIPELI? OR PIPETTE? OR HOSE? OR DUCT? OR CONDUIT? OR CANNULA? OR CHANNEL? OR CYLIND? OR ADJUTAG? OR FISTULA?

L20 1291 SEA FILE=WPIX ABB=ON PLU=ON L2 OR L3

L21 0 SEA FILE=WPIX ABB=ON PLU=ON L20 AND (MAGNET?(A) (STRIP? OR BARRIER?) OR MAGSTRIP? OR MAGBARRIER?)

L22 146 SEA FILE=WPIX ABB=ON PLU=ON L20 AND (ETCH? OR PATTERN?)

L23 44 SEA FILE=WPIX ABB=ON PLU=ON L22 AND L13

L24 3 SEA FILE=WPIX ABB=ON PLU=ON L23 AND ?MAGNET?

L25 3 SEA FILE=WPIX ABB=ON PLU=ON L21 OR L24

L29 18 SEA FILE=WPIX ABB=ON PLU=ON (REACTOR? OR REACTION# (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM?)) AND (MAGNET?(A)

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                (STRIP? OR BARRIER?) OR MAGSTRIP? OR MAGBARRIER?)
L30      1 SEA FILE=WPIX ABB=ON PLU=ON L29 AND (ETCH? OR PATTERN?)
L31      3 SEA FILE=WPIX ABB=ON PLU=ON L29 AND (L12 OR L13)
L33      21 SEA FILE=WPIX ABB=ON PLU=ON L25 OR L29 OR L30 OR L31
L34      21 SEA FILE=WPIX ABB=ON PLU=ON (REACTOR? OR REACTION# (2A)
                (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM?)) AND (?MAGNET?(A
                ) (STRIP? OR BARRIER?) OR ?MAGSTRIP? OR ?MAGBARRIER?)
L35      24 SEA FILE=WPIX ABB=ON PLU=ON L33 OR L34
L36      7 SEA FILE=WPIX ABB=ON PLU=ON L35 AND (L12 OR L13)
L37      2 SEA FILE=WPIX ABB=ON PLU=ON L35 AND LIQUID?
L40      4 SEA FILE=PASCAL ABB=ON PLU=ON L35 OR L36 OR L37

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=> d que 141

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L2      6955 SEA FILE=HCAPLUS ABB=ON PLU=ON MICROREACTOR? OR MICRO(A) (
                REACTOR# OR (REACTION#) (2A) (VESSEL# OR CHAMBER# OR TANK#
                OR SYSTEM# OR SPACE#))
L3      123 SEA FILE=HCAPLUS ABB=ON PLU=ON MICROREACTION# (2A)
                (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM# OR SPACE#)
L12     QUE ABB=ON PLU=ON INLET? OR IN LET? OR OUTLET? OR OUT
                LET?
L13     QUE ABB=ON PLU=ON TUBE# OR TUBING# OR TUBUL? OR TUBAT?
                OR TUBIFORM? OR TUBELIKE? OR PIPE# OR PIPING# OR PIPELI?
                OR PIPETTE? OR HOSE? OR DUCT? OR CONDUIT? OR CANNULA? OR
                CHANNEL? OR CYLIND? OR ADJUTAG? OR FISTULA?
L20     1291 SEA FILE=WPIX ABB=ON PLU=ON L2 OR L3
L21     0 SEA FILE=WPIX ABB=ON PLU=ON L20 AND (MAGNET?(A) (STRIP?
                OR BARRIER?) OR MAGSTRIP? OR MAGBARRIER?)
L22     146 SEA FILE=WPIX ABB=ON PLU=ON L20 AND (ETCH? OR PATTERN?)
L23     44 SEA FILE=WPIX ABB=ON PLU=ON L22 AND L13
L24     3 SEA FILE=WPIX ABB=ON PLU=ON L23 AND ?MAGNET?
L25     3 SEA FILE=WPIX ABB=ON PLU=ON L21 OR L24
L29     18 SEA FILE=WPIX ABB=ON PLU=ON (REACTOR? OR REACTION# (2A)
                (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM?)) AND (MAGNET?(A)
                (STRIP? OR BARRIER?) OR MAGSTRIP? OR MAGBARRIER?)
L30     1 SEA FILE=WPIX ABB=ON PLU=ON L29 AND (ETCH? OR PATTERN?)
L31     3 SEA FILE=WPIX ABB=ON PLU=ON L29 AND (L12 OR L13)
L33     21 SEA FILE=WPIX ABB=ON PLU=ON L25 OR L29 OR L30 OR L31
L34     21 SEA FILE=WPIX ABB=ON PLU=ON (REACTOR? OR REACTION# (2A)
                (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM?)) AND (?MAGNET?(A
                ) (STRIP? OR BARRIER?) OR ?MAGSTRIP? OR ?MAGBARRIER?)
L35     24 SEA FILE=WPIX ABB=ON PLU=ON L33 OR L34
L36     7 SEA FILE=WPIX ABB=ON PLU=ON L35 AND (L12 OR L13)
L37     2 SEA FILE=WPIX ABB=ON PLU=ON L35 AND LIQUID?
L41     2 SEA FILE=COMPENDEX ABB=ON PLU=ON L35 OR L36 OR L37

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=> dup rem 118 138 139 140 141

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FILE 'PASCAL' ENTERED AT 16:56:37 ON 04 SEP 2008

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FILE 'COMPENDEX' ENTERED AT 16:56:37 ON 04 SEP 2008
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PROCESSING COMPLETED FOR L38
PROCESSING COMPLETED FOR L39
PROCESSING COMPLETED FOR L40
PROCESSING COMPLETED FOR L41
L42 48 DUP REM L18 L38 L39 L40 L41 (4 DUPLICATES REMOVED)
ANSWERS '1-21' FROM FILE HCAPLUS
ANSWERS '22-42' FROM FILE WPIX
ANSWER '43' FROM FILE JAPIO
ANSWERS '44-46' FROM FILE PASCAL
ANSWERS '47-48' FROM FILE COMPENDEX

=> d 1-21 ibib ed abs hitind

L42 ANSWER 1 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2006:401171 HCAPLUS Full-text
DOCUMENT NUMBER: 144:435250
TITLE: Micro-channel structure for
microreactors and method of manufacturing
the same
INVENTOR(S): Miyake, Takashi; Nishikubo, Hiroaki
PATENT ASSIGNEE(S): Dainippon Screen Mfg. Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1652577	A1	20060503	EP 2005-20522	20050920
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
JP 2006122736	A	20060518	JP 2004-310730	20041026
CN 1766645	A	20060503	CN 2005-10106329	20050922
PRIORITY APPLN. INFO.:			JP 2004-310730	A 20041026

ED Entered STN: 03 May 2006

AB In a microreactor, a groove is formed by a first substrate and an intermediate substrate layered on the first substrate, and an opening of the groove is closed by a second substrate serving as a lid member to form a micro channel in which fluids flow. The intermediate substrate comprises a channel area including a through hole forming part of the micro channel and a plate-like connecting portion which is thinner than parts on both sides of the channel area, for connecting the parts on both sides in a predetd. position of the micro channel in a longitudinal direction. In the microreactor, it is possible to easily handle the intermediate substrate as one member in forming

and handling the intermediate substrate and simplify a process of manufacturing the microreactor.

CC 48-8 (Unit Operations and Processes)

ST microreactor manuf etching

IT Etching

Magnetic field

(micro-channel structure for microreactors and its manufacture by etching)

IT Reactors

(microreactors; micro-channel structure for microreactors and its manufacture by etching)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 2 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN DUPLICATE 2

ACCESSION NUMBER: 2004:216987 HCAPLUS Full-text

DOCUMENT NUMBER: 140:255408

TITLE: Microreactors with liquid passages formed with magnetic barriers

INVENTOR(S): Aokaki, Ryoichi; Ito, Eiko; Ogata, Mikio

PATENT ASSIGNEE(S): Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004082118	A	20040318	JP 2003-302027	20030724
JP 4005545	B2	20071107		
WO 2005009605	A1	20050203	WO 2003-JP14054	20031104
W: US				
RM: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1666136	A1	20060607	EP 2003-770124	20031104
R: DE, FR, GB				
US 20070104624	A1	20070510	US 2006-565755	20060227
PRIORITY APPLN. INFO.:			JP 2002-247776	A 20020725
			JP 2003-302027	A 20030724
			WO 2003-JP14054	W 20031104

ED Entered STN: 18 Mar 2004

AB The title microreactors are composed of liquid inlets, fine liquid passages, and a liquid outlet, whereas the liquid passages are formed with strongly magnetic strips as magnetic barriers. They are used in, e.g., metal coating, pattern etching.

IC ICM B01J019-00

ICS B01J019-08; C23C018-31; C23F001-02; C25D007-12; C25F003-14; C25D005-02

CC 47-3 (Apparatus and Plant Equipment)

ST microreactor magnetic barrier

IT Reactors

(microreactors; microreactors with liquid passages formed with magnetic barriers)

L42 ANSWER 3 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN DUPLICATE 3

ACCESSION NUMBER: 2002:907668 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 138:17415
 TITLE: Atomic physics processes important to the understanding of the scrape-off layer of tokamaks
 AUTHOR(S): West, W. P.; Goldsmith, B.; Evans, T. E.; Olson, R. E.
 CORPORATE SOURCE: General Atomics, San Diego, CA, 92186-5608, USA
 SOURCE: AIP Conference Proceedings (2002), 636(Atomic and Molecular Data and Their Applications), 171-179
 CODEN: APCPCS; ISSN: 0094-243X
 PUBLISHER: American Institute of Physics
 DOCUMENT TYPE: Journal; General Review
 LANGUAGE: English

ED Entered STN: 29 Nov 2002

AB A review. The region between the well-confined plasma and the vessel walls of a magnetic confinement fusion research device, the scrape-off layer (SOL), is typically rich in atomic and mol. physics processes. The most advanced magnetic confinement device, the magnetically diverted tokamak, uses a magnetic separatrix to isolate the confinement zone (closed flux surfaces) from the edge plasma (open field lines). Over most of their length the open field lines run parallel to the separatrix, forming a thin magnetic barrier with the nearby vessel walls. In a poloidally-localized region, the open field lines are directed away from the separatrix and into the divertor, a region spatially separated from the separatrix where intense plasma wall interaction can occur relatively safely. Recent data from several tokamaks indicate that particle transport across the field lines of the SOL can be somewhat faster than previously thought. In these cases, the rate at which particles reach the vessel wall is comparable to the rate to the divertor from parallel transport. The SOL can be thin enough that the recycling neutrals and sputtered impurities from the wall may refuel or contaminate the confinement zone more efficiently than divertor plasma wall interaction. Just inside the SOL is a confinement barrier that produces a sharp pedestal in plasma d. and temperature. Understanding neutral transport through the SOL and into the pedestal is key to understanding particle balance and particle and, impurity exhaust. The SOL plasma is sufficiently hot and dense to excite and ionize neutrals. Ion and neutral temps. are high enough that charge exchange between the neutrals and fuel and impurity ions is fast. Excitation of neutrals can be fast enough to lead to nonlinear behavior in charge exchange and ionization processes. The detailed atomic physics important to the understanding of the neutral transport through the SOL is discussed.

CC 71-0 (Nuclear Technology)

IT Atomic physics

Tokamak reactors

(atomic physics processes important to the understanding of scrape-off layer of tokamaks)

IT Tokamak reactors

(divertors; atomic physics processes important to the understanding of scrape-off layer of tokamaks)

IT Fusion reactor divertors

(tokamak; atomic physics processes important to the understanding of scrape-off layer of tokamaks)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 4 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN DUPLICATE 4

ACCESSION NUMBER: 1998:605083 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 129:232439
 ORIGINAL REFERENCE NO.: 129:47259a,47262a

TITLE: Chemical microreactors and their
 manufacture by micromachining
 INVENTOR(S): Breuer, Norbert; Meyer, Heinrich
 PATENT ASSIGNEE(S): Atotech Deutschland G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 44 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9837457	A1	19980827	WO 1998-DE519	19980217
W: CA, JP, KR, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19708472	A1	19980924	DE 1997-19708472	19970220
DE 19708472	C2	19990218		
CA 2282354	A1	19980827	CA 1998-2282354	19980217
EP 961953	A1	19991208	EP 1998-913516	19980217
EP 961953	B1	20031001		
R: BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE, IE, FI				
JP 2001524019	T	20011127	JP 1998-536162	19980217
JP 4020438	B2	20071212		
ES 2205468	T3	20040501	ES 1998-913516	19980217
IN 1998DE00419	A	20050701	IN 1998-DE419	19980218
TW 438624	B	20010607	TW 1998-87102314	19980219
US 6409072	B1	20020625	US 1999-380055	19991025
US 20020119079	A1	20020829	US 2002-127709	20020422
PRIORITY APPLN. INFO.:			DE 1997-19708472	A 19970220
			WO 1998-DE519	W 19980217
			US 1999-380055	A1 19991025

ED Entered STN: 24 Sep 1998

AB Chemical microreactors for chemical synthesis and methods for producing them have disadvantages such as high production costs or poor flexibility regarding adaptation to different applications. Microreactors and production methods are described which do not have these disadvantages. The microreactors consist of fluid channels on at least one level, as well as fluid inlets and outlets. The fluid channels are delimited by opposing side walls made of metal and by addnl. side walls made of metal or plastic which extend between the side walls. The levels are connected to each other and/or to a sealing segment for closing off fluid channels by means of soldered or adhesive layers. Sensors, elec. resistance heaters, cooling apparatus, and windows can be included in the reactor. The production methods include production steps in which the individual reactors levels, manufactured by means of photoresist/etching or galvanization techniques, are connected to each other by soldering or adhesion.

ICM G03F007-00

CC 47-3 (Apparatus and Plant Equipment)

ST chem microreactor fabrication micromachining

IT Epoxy resins, uses

(adhesives; chemical microreactor fabrication by micromachining)

IT Adhesives

Catalysts

Cooling apparatus

Corrosion-resistant materials
 Electrodeposition
 Etching
 Ferromagnetic materials
 Heaters
 Micromachining
 Photolithography
 Photoresists
 Sensors
 Soldering
 Windows
 (chemical microreactor fabrication by micromachining)

IT Metals, uses
 Plastics, uses
 (chemical microreactor fabrication by micromachining)

IT Phosphines
 (chemical microreactor fabrication by micromachining)

IT Thiols (organic), preparation
 (chemical microreactor fabrication by micromachining)

IT Reactors
 (microreactors; chemical microreactor fabrication
 by micromachining)

IT Vapor deposition process
 (plasma; chemical microreactor fabrication by
 micromachining)

IT 7429-90-5, Aluminum, uses 7439-88-5, Iridium, uses 7439-92-1,
 Lead, uses 7440-02-0, Nickel, uses 7440-05-3, Palladium, uses
 7440-06-4, Platinum, uses 7440-16-6, Rhodium, uses 7440-18-8,
 Ruthenium, uses 7440-22-4, Silver, uses 7440-31-5, Tin, uses
 7440-36-0, Antimony, uses 7440-48-4, Cobalt, uses 7440-50-8,
 Copper, uses 7440-57-5, Gold, uses 7440-69-9, Bismuth, uses
 11149-64-7 12597-68-1, Stainless steel, uses 12597-69-2, Steel,
 uses
 (chemical microreactor fabrication by micromachining)

IT 74-87-3P, Methylchloride, preparation 74-88-4P, Methyl iodide,
 preparation 75-01-4P, preparation 75-21-8P, Oxirane, preparation
 75-44-5P, Phosgene 77-78-1P, Dimethylsulfate 506-77-4P,
 Chlorocyanide 7782-49-2DP, Selenium, compds., preparation
 (chemical microreactor fabrication by micromachining)

IT 25036-53-7 117537-49-2, Laminar HG 212778-81-9, Riston 4630
 (chemical microreactor fabrication by micromachining)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L42 ANSWER 5 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2008:795992 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 149:200383
 TITLE: Organic Synthesis in Soft Wall-Free
 Microreactors: Real-Time Monitoring of
 Fluorogenic Reactions
 AUTHOR(S): Marchand, G.; Dubois, P.; Delattre, C.; Vinet, F.;
 Blanchard-Desce, M.; Vaultier, M.
 CORPORATE SOURCE: Department of Technology for Biology and Health,
 CEA/LETI-Minatec, Grenoble, 38054, Fr.
 SOURCE: Analytical Chemistry (Washington, DC, United
 States) (2008), 80(15), 6051-6055
 CODEN: ANCHAM; ISSN: 0003-2700
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 03 Jul 2008

- AB A new approach of laboratory on a chip (LOC) devoted to organic synthesis based on elec. operated ionic liquid microdroplets used as air-stable soft microreactors was recently introduced. A number of challenging issues have yet to be addressed to allow standard macroscale organic chemical to be directly transposed in these nonclassical microreactors. In particular, since standard (i.e., magnetic or mech.) stirring methods are prohibited in such wall-free microreactors, effective alternatives have to be developed to circumvent mass-transfer limitations. With this aim in mind, a fluorogenic version of a click chemical reaction was developed to evaluate the efficiency of alternative mixing methods on the reaction kinetics. The combination of chaotic advection created by surface acoustic waves combined with a temperature increase (Marangoni effect) leads to the same kinetics regime as in standard macroscale conditions. This opens the route for application of the new generation of LOC to efficient organic synthesis in microscale.
- CC 22-5 (Physical Organic Chemistry)
Section cross-reference(s): 21, 73, 80
- ST org prepn soft wall microreactor real time monitoring
fluorogenic
- IT Cycloaddition reaction
Cycloaddition reaction kinetics
(1,3-dipolar; real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT Density functional theory
(B3LYP; real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT Charge transfer interaction
(excited state intramol.; real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT Electron transfer
(intramol., photochem.; real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT Reactors
(microreactors; real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT Vapor deposition process
(plasma, in microfabrication of silicon nitride layer for microreactor; real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT Activation energy
Click chemistry
Convective flow
Fluorescence
Hartree-Fock method
Ionic liquids
Lab-on-a-chip
Marangoni effect
Microchemistry
Mixing
Organic synthesis
Surface acoustic wave
UV and visible spectra
(real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 7440-21-3, Silicon, uses
(chip for microreactor; real-time monitoring of

- fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 7440-57-5, Gold, uses
(electrodes; real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 12033-89-5, Silicon nitride, uses
(etching in microfabrication of electrode for microreactor; real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 258273-75-5P 1041030-94-7P
(ionic liquid base; real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 37626-13-4, Teflon AF-1601
(microreactor chip covering; real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 37206-70-5
(patterning microfabrication of microreactor; real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 64443-05-6
(real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 768-60-5
(real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 31641-76-6P
(real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 68809-41-6P
(real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 75-50-3, Trimethylamine, reactions 109-69-3, 1-Chlorobutane 109-89-7, Diethylamine, reactions 111-24-0, 1,5-Dibromopentane 473-27-8, 4-Trifluoromethylsulfonylaniline 26628-22-8, Sodium azide 90076-65-6, Lithium bis(trifluoromethylsulfonyl)imide
(real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 14251-72-0P, Butyltrimethylammonium chloride 191086-26-7P
(real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 7632-00-0, Sodium nitrite
(real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- IT 92-52-4D, 1,1'-Biphenyl, chloro derivs.
(support holding microreactor chip; real-time monitoring of fluorogenic reactions used with organic synthesis in soft wall-free microreactors)
- REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 6 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2007:1174830 HCAPLUS Full-text
 TITLE: Magnetic composite microspheres with patterned surface structures: preparation in situ and characterization
 AUTHOR(S): Wang, Gong-Zheng; Xia, Hui-Yun; Zhang, Ying; Peng, Shi-Jie
 CORPORATE SOURCE: Key Laboratory of Applied Surface and Colloid

Chemistry of Ministry of Education, School of
Chemistry and Materials Science, Shaanxi Normal
University, Xi'an, 710062, Peop. Rep. China
Huaxue Xuebao (2007), 65(18), 2051-2056
CODEN: HHHFPA4; ISSN: 0567-7351

SOURCE:

PUBLISHER:

DOCUMENT TYPE:

LANGUAGE:

Huaxue Xuebao Bianjibu

Journal

Chinese

ED Entered STN: 18 Oct 2007

AB N-isopropylacrylamide (NIPAM) and acrylic acid (AA) copolymer microspheres with various comps. were prepared by a reverse suspension polymerization technique. The microspheres thus prepared were employed as micro-reactors for the synthesis of Fe₃O₄ and the deposition of SiO₂ in situ. In this way, several kinds of SiO₂-Fe₃O₄-P(NIPAM-co-AA) magnetic composite microspheres with different surface morphologies were prepared. It was demonstrated that the surface structures of the composite microspheres could be tailored to a certain extent by varying the ratio of the two monomer units in the template (microgels), the amount of Fe₃O₄ adsorbed and the amount of SiO₂ deposited. The magnetic composite microsphere surface was modified by the NH₂ groups via silanization reagent (3-aminopropyltrimethoxysilane). It might be expected that this functional material can be applied for recognition of biomacromols. and in biol. medical fields.

CC 36 (Physical Properties of Synthetic High Polymers)

L42 ANSWER 7 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:

2007:1307174 HCAPLUS Full-text

DOCUMENT NUMBER:

148:19346

TITLE:

Status of R&D activities on materials for fusion power reactors

AUTHOR(S):

Baluc, N.; Abe, K.; Boutard, J. L.; Chernov, V. M.; Diegele, E.; Jitsukawa, S.; Kimura, A.; Klueh, R. L.; Kohyama, A.; Kurtz, R. J.; Lasser, R.; Matsui, H.; Moslang, A.; Muroga, T.; Odette, G. R.; Tran, M. Q.; van der Schaaf, B.; Wu, Y.; Yu, J.; Zinkle, S. J.

CORPORATE SOURCE:

CRPP-EPFL, Villigen, Switz.

SOURCE:

Nuclear Fusion (2007), 47(10), S696-S717

CODEN: NUFUAA; ISSN: 0029-5515

PUBLISHER:

Institute of Physics Publishing

DOCUMENT TYPE:

Journal; General Review

LANGUAGE:

English

ED Entered STN: 16 Nov 2007

AB A review. Current R&D activities on materials for fusion power reactors are mainly focused on plasma facing, structural and tritium breeding materials for plasma facing (first wall, divertor) and breeding blanket components. Most of these activities are being performed in Europe, Japan, the People's Republic of China, Russia and the USA. They relate to the development of new high temperature, radiation resistant materials, the development of coatings that will act as erosion, corrosion, permeation and/or elec./MHD barriers, characterization of candidate materials in terms of mech. and phys. properties, assessment of irradiation effects, compatibility expts., development of reliable joints, and development and/or validation of design rules. Priorities defined worldwide in the field of materials for fusion power reactors are summarized, as well as the main achievements obtained during the last few years and the near-term perspectives in the different investigation areas.

CC 71-0 (Nuclear Technology)

IT Fusion reactors

(materials for fusion power reactors)

REFERENCE COUNT:

234 THERE ARE 234 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L42 ANSWER 8 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:371803 HCAPLUS Full-text

DOCUMENT NUMBER: 146:430112

TITLE: On MHD stability, ellipticity, omnigenity,
constants of motions and a modified thermal
barrier of a straight field line mirror

AUTHOR(S): Aagren, O.; Moiseenko, V. E.

CORPORATE SOURCE: Division of Electricity and Lightning Research,
Aangstroem Laboratory, Uppsala University,
Uppsala, SE-751 21, Swed.

SOURCE: Fusion Science and Technology (2007), 51(2T),
200-203

CODEN: FSTUCY; ISSN: 1536-1055

PUBLISHER: American Nuclear Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 04 Apr 2007

AB The straight field line mirror field is the unique field which gives the
lowest ellipticity of the flux tube of an MHD stable min. B mirror field. In
this particular vacuum field, each gyro center bounces back and forth on a
single magnetic field line, and a pair of two new consts. of motion is
associated with this property. Using these invariants in the Vlasov equation,
it can be shown that the radial gyro center magnetic drift is absent to first
order in the plasma beta, and the equilibrium is omnigenous. The neoclassical
increase of the radial transport may thus be avoided without an
axisymmetrization of this single cell mirror. A scheme to improve end
confinement of ions, and simultaneously create an elec. potential barrier for
the electrons and a sloshing ion component, has been proposed. The end
plugging transforms ions under way to escape into the loss cone into sloshing
ions by ion cyclotron resonance heating. Numerical studies on sloshing ion
production by RF heating demonstrate strong absorption of the RF field near
the fundamental gyro frequency resonance of the minority deuterium ions as
well as near the tritium second harmonic gyro frequency resonance. The
scenario indicates a possibility to achieve a high energy gain factor in this
kind of single cell mirror with the proposed modified thermal barrier.

CC 71-2 (Nuclear Technology)

IT Electron temperature
Fusion reactor plasmas
MHD (magnetohydrodynamics)
Magnetic field effects
Magnetic traps

Mirror reactors

Potential barrier

(MHD stability, ellipticity, omnigenity, consts. of
motions and modified thermal barrier of straight field line mirror)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L42 ANSWER 9 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:363191 HCAPLUS Full-text

DOCUMENT NUMBER: 144:380819

TITLE: Powder-compact iron core reactors varying
inductance between coil terminals depending on
current value

INVENTOR(S): Kono, Tetsuo; Kanzaki, Akira; Asaka, Kazuo;
Ishihara, Chio

PATENT ASSIGNEE(S): System Giken Y. K., Japan; Nippon Control Co., Ltd.; Hitachi Funmatsu Yakin Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006108477	A	20060420	JP 2004-294724	20041007
PRIORITY APPLN. INFO.:			JP 2004-294724	20041007

ED Entered STN: 21 Apr 2006

AB The reactors have plural cores with different permeability forming gap-free closed circuits, being stacked via magnetic-barrier layers, and wound by common coils passing elec. currents to generate magnetic fluxes of different value in those cores, varying the inductance between the coil terminals depending on the current value. Preferably, the coils may form common-mode reactors. The reactors prevent magnetic noises from generating.

CC 77-8 (Magnetic Phenomena)

Section cross-reference(s): 55

IT Magnetic cores

Reactors

(powder-compact iron core reactors showing sp. inductance-current characteristics and suppressing noise generation)

L42 ANSWER 10 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:1347771 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 144:405039

TITLE: Manipulation and extraction of genomic DNA from cell lysate by functionalized magnetic particles for lab on a chip applications

AUTHOR(S): Yeung, Siu Wai; Hsing, I-Ming

CORPORATE SOURCE: Department of Chemical Engineering, Hong Kong University of Science and Technology, Kowloon, Hong Kong

SOURCE: Biosensors & Bioelectronics (2006), 21(7), 989-997

CODEN: BBIOE4; ISSN: 0956-5663

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 29 Dec 2005

AB A novel approach for extracting living cells' genomic DNA materials utilizing functionalized magnetic particles (MPs) is reported in this investigation. This strategy is amenable to handle bio-samples in a miniaturized environment and it offers a possibility to sep. and purify DNA from other cell lysate mixts. "on-chip", which is known to be a bottle-neck step in an integrated micro-total-anal.-system (μ TAS). "Species-specific" genomic DNA of interest is captured by the MPs based on the hybridization interaction between the biotinylated probes modified MPs and a complementary region of the targeted genome. The genome DNA anchored on the particles can be separated from the rest of cellular mixts. by a simple buffer washing upon the exertion of external magnetic force. Surface modifications of MPs and hybridization conditions affecting the genome capturing efficiency are investigated. Extraction of genomic DNA from *E. coli* is demonstrated in a silicon/glass-based micro-reactor patterned with a platinum heater and sensors. On-chip extraction and manipulation of genomic DNAs illustrated in this study is a

step forward toward a total integrated bioanal. microsystem for crude cells/sample anal.

CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 9

ST cell DNA extn functionalized magnetic particle

IT Nucleic acid hybridization
(DNA-DNA; manipulation and extraction of genomic DNA from cell lysate by functionalized magnetic particles for lab on a chip applications)

IT Magnetic particles
(avidin-coated; manipulation and extraction of genomic DNA from cell lysate by functionalized magnetic particles for lab on a chip applications)

IT Probes (nucleic acid)
(biotinylated; manipulation and extraction of genomic DNA from cell lysate by functionalized magnetic particles for lab on a chip applications)

IT Lab-on-a-chip
Microelectrodes
(manipulation and extraction of genomic DNA from cell lysate by functionalized magnetic particles for lab on a chip applications)

IT DNA
(manipulation and extraction of genomic DNA from cell lysate by functionalized magnetic particles for lab on a chip applications)

IT Electrochemical analysis
(of PCR amplicons; manipulation and extraction of genomic DNA from cell lysate by functionalized magnetic particles for lab on a chip applications)

IT PCR (polymerase chain reaction)
(on-a-chip; manipulation and extraction of genomic DNA from cell lysate by functionalized magnetic particles for lab on a chip applications)

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 11 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:207801 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 142:289692

TITLE: Magnetic barrier for plasma in chamber exhaust

INVENTOR(S): Carducci, James D.; Noorbakhsh, Hamid; Lee, Evans Y.; Shan, Hongqing; Salimian, Siamak; Luscher, Paul E.; Welch, Michael D.

PATENT ASSIGNEE(S): USA

SOURCE: U.S., 13 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
US 6863835	B1	20050308	US 2000-557990	20000425
US 20010032590	A1	20011025	US 2001-775173	20010131
US 6773544	B2	20040810		
US 20010032591	A1	20011025	US 2001-775295	20010131

WO 2001082328	A2	20011101	WO 2001-US13576	20010425
WO 2001082328	A3	20020502		
W: JP, KR				
TW 490740	B	20020611	TW 2001-90109950	20010425
JP 2004535056	T	20041118	JP 2001-579324	20010425
PRIORITY APPLN. INFO.:			US 2000-557990	A1 20000425
			WO 2001-US13576	W 20010425

ED Entered STN: 09 Mar 2005

AB A plasma chamber apparatus and method employing a magnet system to block the plasma within the chamber interior from reaching the exhaust pump. An exhaust channel between the chamber interior and the pump includes a magnet and at least one deflector that creates turbulence in the flow of exhaust gases. The magnetic field and the turbulence produced by the deflector both increase the rate of recombination of charged particles in the gases, thereby reducing the concentration of charged particles sufficiently to quench the plasma downstream of the magnet and deflector, thereby preventing the plasma body within the chamber from reaching the exhaust pump. The plasma confinement effect of the magnetic field permits the use of a wider and/or less sinuous exhaust channel than would be required to block the plasma without the magnetic field. Therefore, the pressure drop across the exhaust channel can be reduced in comparison with prior art designs that rely entirely on the sinuousness of the exhaust channel to block the plasma. Alternatively, if the magnetic field is strong enough, the magnetic field alone can block the plasma from reaching the exhaust pump without the need for any deflector in the exhaust channel.

IC ICM B44C001-22

ICS H01L021-306; C23C016-00

INCL 216063000; 216071000; 118723000E; 427569000; 156345390; 156345100;
156345290; 156345460; 156345490; 156345420

CC 76-11 (Electric Phenomena)

Section cross-reference(s): 47, 77

ST magnetic barrier plasma confinement chamber

IT Magnetic screening

Plasma

Semiconductor device fabrication

(magnetic barrier for plasma in chamber exhaust)

IT Reactors

(plasma; magnetic barrier for plasma in chamber exhaust)

IT Magnets

(poles; magnetic barrier for plasma in chamber exhaust)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L42 ANSWER 12 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:738564 HCAPLUS Full-text

TITLE: Synthesis and characterization of non-noble
nano-catalysts for hydrogen production

AUTHOR(S): Kuila, Debasish; Shetty, Krithi; Cao, Wei; Zhao,
Shihuai; Mainardi, Daniela; Seetala, Naidu V.

CORPORATE SOURCE: Institute for Micromanufacturing/Chemistry,
Louisiana Tech University, Ruston, LA, 71272, USA

SOURCE: Abstracts of Papers, 230th ACS National Meeting,
Washington, DC, United States, Aug. 28-Sept. 1,
2005 (2005), FUEL-060. American Chemical Society:

Washington, D. C.

CODEN: 69HFCL

DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)

LANGUAGE: English

ED Entered STN: 12 Aug 2005

AB We have started a program for hydrogen production using sol-gel encapsulated non-noble metal catalysts in a multichannel microreactor. This work involves synthesis and characterization of nickel and cobalt catalysts in silica for steam reforming of methanol ($\text{CH}_3\text{OH} + \text{H}_2\text{O}$). Characterizations of the nano-catalysts were performed by SEM, energy dispersive X-ray (EDX), DTA (DTA), vibrating sample magnetometer (VSM), BET surface area and XRD techniques. The silicon (Si) microreactor is fabricated using a MEMS process including photolithog. and ICP (Inductively Coupled Plasma) etching. For fast catalyst screening and development, an array of Si-microreactors has also been built. The results from steam reforming and the effect of temperature on the catalysts from our ongoing Mol. Dynamic calcns. will be presented.

L42 ANSWER 13 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:42557 HCAPLUS Full-text

DOCUMENT NUMBER: 144:288601

TITLE: Development of high-throughput cell analysis system using a glass microfluidic chip as a core element

AUTHOR(S): Ichiki, Takanori

CORPORATE SOURCE: Institute of Engineering Innovation, Faculty of Engineering, The University of Tokyo, Japan

SOURCE: Asahi Garasu Zaidan Josei Kenkyu Seika Hokoku (2005) 02.03/12-02.03/20

CODEN: AGSHEN; ISSN: 0919-9179

PUBLISHER: Asahi Garasu Zaidan

DOCUMENT TYPE: Journal; General Review; (computer optical disk)

LANGUAGE: Japanese

ED Entered STN: 17 Jan 2006

AB A review. In order to realize high-throughput cell anal., we studied micro-array chip technol. based on advanced LSI microfabrication technol. In this study, we developed a new microreactor array chip for feasible positioning and fixing individual magnetic beads in a large scale array matrix. This technol. is applicable to the high-throughput screening of various biomol. functions. Furthermore, we utilized the microreactor array chip as a template for transferring patterned beads on PDMS film and developed a micropatterned scaffold chip for controlled cell cultivation. The chip is comprised of promising biocompatible materials, a PDMS film and magnetic beads, whose surfaces are chemical modified. We have demonstrated successful control of cells' configuration and growth on the micro-patterned scaffold chip owing to both topog. and chemical effects.

CC 9-0 (Biochemical Methods)

IT Animal tissue culture

Magnetic particles

Microarray technology

Photolithography

(development of high-throughput cell anal. system using glass microfluidic chip as core element)

IT Reactors

(microreactors, on microarray set-up; development of high-throughput cell anal. system using glass microfluidic chip as core element)

L42 ANSWER 14 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:905318 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:367704
 TITLE: Fluid mixing apparatus and fluid mixing system
 INVENTOR(S): Fujiwara, Takayuki; Fujisawa, Mamoru
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: U.S. Pat. Appl. Publ., 66 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040213083	A1	20041028	US 2004-831120	20040426
JP 2004344877	A	20041209	JP 2004-86528	20040324
EP 1473077	A2	20041103	EP 2004-9956	20040427
EP 1473077	A3	20050420		
EP 1473077	B1	20071010		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
AT 375199	T	20071015	AT 2004-9956	20040427
CN 1550255	A	20041201	CN 2004-10038620	20040428
PRIORITY APPLN. INFO.:			JP 2003-123864	A 20030428
			JP 2004-86528	A 20040324

ED Entered STN: 29 Oct 2004

AB In a fluid mixing apparatus and a fluid mixing system including the apparatus, a micro-reactor has a plate sandwiched by a lid member and a receiving member. In the plate, a plate through hole, a slit cylindrical through hole, and an outer layer channel are formed, and three fluids flowing in the lid member are allowed to flow out in the same direction, resp. Further, in the micro-reactor, the receiving member having a mixing channel having an outer periphery in the same form as an outermost periphery of the outer layer channel is provided detachably to the plate.

IC ICM B01F001-00

INCL 366336000

CC 47-5 (Apparatus and Plant Equipment)

Section cross-reference(s): 48, 66, 74

ST fluid app static mixer bonded stack perforated plate microchannel;
 plate stack micromachining mixer capillary conduit
 concentric rectangular ring

IT Pipes and Tubes

(conduits, in and through plate stacks; static mixer
 fluid mixing apparatus and fluid mixing system, for example emulsions
 and high viscosity fluids)

IT Etching

(dry; static mixer fluid mixing apparatus and fluid mixing system, for
 example emulsions and high viscosity fluids)

IT Reactors

(microreactors; static mixer fluid mixing apparatus and fluid
 mixing system, for example emulsions and high viscosity fluids)

IT Ceramics

(mixer and tube body; static mixer fluid mixing apparatus and
 fluid mixing system, for example emulsions and high viscosity
 fluids)

IT Alloys, uses

Plastics, uses

- (mixer and tube body; static mixer fluid mixing apparatus and fluid mixing system, for example emulsions and high viscosity fluids)
- IT Capillary tubes
(mixing channels and reactor chamber; static mixer fluid mixing apparatus and fluid mixing system, for example emulsions and high viscosity fluids)
- IT Bolts
Flow
Heaters
Laser ablation
Magnetic materials
Mixing
Pumps
Temperature sensors
(static mixer fluid mixing apparatus and fluid mixing system, for example emulsions and high viscosity fluids)
- IT Cylinders
(tubes and annular chambers in plate sections, for fluid flow and mixing; static mixer fluid mixing apparatus and fluid mixing system, for example emulsions and high viscosity fluids)
- IT Plates
(with channels and connecting flanges; static mixer fluid mixing apparatus and fluid mixing system, for example emulsions and high viscosity fluids)
- IT 92131-46-9
(magnet; static mixer fluid mixing apparatus and fluid mixing system, for example emulsions and high viscosity fluids)
- IT 12597-68-1, Stainless steel, uses
(mixer and tube body; static mixer fluid mixing apparatus and fluid mixing system, for example emulsions and high viscosity fluids)

L42 ANSWER 15 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:57301 HCAPLUS Full-text
DOCUMENT NUMBER: 140:90279
TITLE: Magnetic particle microarray reactor for performing chemical and biochemical processes
INVENTOR(S): Ahlers, Horst; Mueller, Peter-Juergen; Ozegowski, Joerg-Hrman
PATENT ASSIGNEE(S): Hans-Knoell-Institut fuer Naturstoff-Forschung e.V., Germany; Friedrich-Schiller-Universitaet Jena
SOURCE: Ger. Offen., 17 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
DE 10231925	A1	20040122	DE 2002-10231925	20020710
PRIORITY APPLN. INFO.:			DE 2002-10231925	20020710

ED Entered STN: 23 Jan 2004

AB The invention concerns a microarray reactor system that enables the movement and manipulation of magnetic particles in a well and/or generate the walls of the wells using the magnetic micro- or nanoparticles; the system includes a patterned magnetic field array that is prepared by photolithog. using magnetic

materials. The system is used for carrying out chemical and biochem. processes; magnetic particles, microreactor walls or wells formed by microparticles contain complex-forming affinity mols., e.g. antibodies, haptens, antigens, lectins, enzymes, cofactors, activators, inhibitors, binding proteins for the binding and determination of ligands. The reactor array can include and optically transparent cover.

- IC ICM B01J019-00
- ICS G01N033-50; C12Q001-00; C12M001-34
- CC 9-1 (Biochemical Methods)
- ST magnetic particle microarray reactor biochip lab on a chip
- IT Lab-on-a-chip
 - Magnetic field effects
 - Magnetic materials
 - Magnets
 - Microarray technology
 - Photolithography
 - Transparency
 - (magnetic particle microarray reactor for performing chemical and biochem. processes)
- IT Agglutinins and Lectins
- Antibodies and Immunoglobulins
- Antigens
- Coenzymes
- Enzymes, biological studies
- Haptens
- Proteins
 - (magnetic particle microarray reactor for performing chemical and biochem. processes)
- IT Microparticles
 - (magnetic; magnetic particle microarray reactor for performing chemical and biochem. processes)
- IT Magnetic particles
 - (microparticles; magnetic particle microarray reactor for performing chemical and biochem. processes)
- IT Magnetic particles
 - (nanoparticles; magnetic particle microarray reactor for performing chemical and biochem. processes)
- IT Paramagnetic materials
 - (superparamagnetic, particles; magnetic particle microarray reactor for performing chemical and biochem. processes)

L42 ANSWER 16 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:453655 HCAPLUS Full-text

DOCUMENT NUMBER: 141:141035

TITLE: Synthesis and Utilization of Monodisperse Hollow Polymeric Particles in Photonic Crystals

AUTHOR(S): Xu, Xiangling; Asher, Sanford A.

CORPORATE SOURCE: Department of Chemistry, University of Pittsburgh, Pittsburgh, PA, 15260, USA

SOURCE: Journal of the American Chemical Society (2004), 126(25), 7940-7945

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 06 Jun 2004

AB We developed a process to fabricate 150-700 nm monodisperse polymer particles with 100-500 nm hollow cores. These hollow particles were fabricated via dispersion polymerization to synthesize a polymer shell around monodisperse

SiO₂ particles. The SiO₂ cores were then removed by HF etching to produce monodisperse hollow polymeric particle shells. The hollow core size, the polymer shell thickness, and the polymer shell properties can be easily varied over significant size ranges. These hollow polymeric particles are sufficiently monodisperse that upon centrifugation from ethanol they form well-ordered close-packed colloidal crystals that diffract light. After the surfaces are functionalized with sulfonates, these particles self-assemble into crystalline colloidal arrays in deionized water. This synthetic method can also be used to create monodisperse particles with complex and unusual morphologies. For example, we synthesized hollow particles containing two concentric-independent, spherical polymer shells, and hollow silica particles which contain a central spherical silica core. In addition, these hollow spheres can be used as template microreactors. For example, we were able to fabricate monodisperse polymer spheres containing high concns. of magnetic nanospheres formed by direct precipitation within the hollow cores.

CC 36-5 (Physical Properties of Synthetic High Polymers)

Section cross-reference(s): 73, 77

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 17 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:988442 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 140:28818

TITLE: Microreactor for process testing and design

INVENTOR(S): Arndt, Frank; Roensch, Hendrik; Steckenborn, Arno

PATENT ASSIGNEE(S): Siemens AG, Germany

SOURCE: Ger. Offen., 6 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
DE 10224150	A1	20031218	DE 2002-10224150	20020527
DE 10224150	B4	20040401		
US 20040013584	A1	20040122	US 2003-445187	20030527
US 7396515	B2	20080708		

PRIORITY APPLN. INFO.: DE 2002-10224150 A 20020527

ED Entered STN: 19 Dec 2003

AB A microreactor is described for testing and design of processes, especially bioprocesses. The reactor is manufactured by etching or other micromech. fabrication methods. A stirring apparatus is formed using an elec. field producer which affects the elec. charge carriers of the sample liquid, forming a circulation or mixing of the liqs. Alternatively, a magnetic field producer can be used which affects magnetic particles in the sample liquid. The reactor allows miniaturization of test reactors for bioprocesses using agitators under small spatial conditions allowing quasi-steady bioprocesses.

IC ICM C12M001-42

CC 47-3 (Apparatus and Plant Equipment)

Section cross-reference(s): 9, 76, 77

ST microreactor process testing design; bioreactor micro

bioprocess testing design

IT Electromagnets

(coils; microreactor for process testing and design)

IT Electric coils

(magnet; microreactor for process testing and design)

IT Micromachines
(microelectromech. devices; microreactor for process testing and design)

IT Bioreactors
Charged particles
Chemical engineering design
Electrodes
Magnetic particles
Micromachining
Samples
(microreactor for process testing and design)

IT Reactors
(microreactors; microreactor for process testing and design)

IT Magnets
(rotary; microreactor for process testing and design)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 18 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:205334 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 139:27681

TITLE: H-mode barrier control with external magnetic perturbations

AUTHOR(S): Grosman, A.; Ane, J.-M.; Barabaschi, P.; Finken, K. H.; Mahdavi, A.; Ghendrih, Ph.; Huysmans, G.; Lipa, M.; Thomas, P. R.; Tsitrone, E.

CORPORATE SOURCE: Dept. de Recherches sur la Fusion Controlee, Association Euratom-CEA, CEA Cadarache, St. Paul lez Durance, 13108, Fr.

SOURCE: Journal of Nuclear Materials (2003), 313-316, 1314-1320

CODEN: JNUMAM; ISSN: 0022-3115

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 17 Mar 2003

AB While present plasma scenarios rely on self generated plasma conditions, active control with ergodic divertor coils provide the means to operate in H-mode with divertor and SOL plasma conditions that are compatible with the tech. constraints. The stochastisation of field lines in the vicinity of the separatrix, will produce a localized enhancement of electron heat transport. This will provide a control on the edge temperature (and thus pressure) barriers. Consequently, the local current profile, which is essentially bootstrap, will be modified. H-mode edge barriers can be controlled and type I Elms avoided in this way. Such controls are required for advanced regimes. The paper will discuss this in light of the theor. and exptl. advances of the last years: Tore Supra expts. gave evidence of the fine tuning capability of the perturbation on a well defined magnetic configuration while JFT-2M expts. showed that the edge stochastisation of the X point configuration has widened the operating windows of the type III ELM regime. The possible implementations of such control in a medium size tokamak (DIII-D) and eventually on ITER will also be described.

CC 71-2 (Nuclear Technology)

ST barrier magnetic perturbation divertor plasma tokamak

IT Tokamak reactors

(divertors, ergodic; active control with ergodic divertor coils at tokamak reactor)
 IT Fusion reactor divertors
 (tokamak, ergodic; active control with ergodic divertor coils at tokamak reactor)
 REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 19 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2002:31367 HCAPLUS Full-text
 DOCUMENT NUMBER: 136:73411
 TITLE: Fabrication of transparent web-textured glass or polymer substrates with hydrophilic/hydrophobic coatings
 INVENTOR(S): Gandon, Christophe; Marzolin, Christian; Rogier, Benoit; Royer, Eddy
 PATENT ASSIGNEE(S): Saint-Gobain Glass France, Fr.
 SOURCE: PCT Int. Appl., 29 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002002472	A1	20020110	WO 2001-FR2138	20010704
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
FR 2811316	A1	20020111	FR 2000-8842	20000706
FR 2811316	B1	20030110		
AU 2001072621	A	20020114	AU 2001-72621	20010704
EP 1296901	A1	20030402	EP 2001-951768	20010704
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
JP 2004502625	T	20040129	JP 2002-507732	20010704
US 20040067339	A1	20040408	US 2003-312948	20031117
PRIORITY APPLN. INFO.:			FR 2000-8842	A 20000706
			WO 2001-FR2138	W 20010704

ED Entered STN: 11 Jan 2002

AB Transparent textured substrates (such as polymer, glass or quartz) are prepared with part of the outer surface having the form of a web comprising more than 80 protuberances, having heights of 40-250 nm, mean diams. of 1-500 nm and distances between two neighboring protuberances of 1-500 nm. Two methods for making the substrates are also described along with applications as automobile windshields, for a building windows, or indoor or outdoor decorative elements, for urban furniture or for household appliances, in a lenticular screen or microprism substrates, in an engraved glass substrates for lamp or display, and in a chemical or biochem. microreactor. The outer surface of the transparent substrates are prepared by magnetron sputtering,

plasma CVD, sol-gel coating, polymerization, pyrolysis with or without the use of a sputtering etching mask. Antireflective, anti-staining, hydrophilic, hydrophobic and/or elec. conductor coatings may be disposed on the substrates.

IC ICM C03C015-00
ICS C03C017-00; C09K003-18; C03C017-32; C03C017-02; C03C017-30

CC 57-1 (Ceramics)
Section cross-reference(s): 38, 56

IT Electric appliances
Electric lamps
Glass substrates
Magnetron sputtering
Windows
(fabrication of transparent web-textured glass or polymer substrates with hydrophilic/hydrophobic coatings)

IT Reactors
(microreactors, chemical or biochem.; fabrication of transparent web-textured glass or polymer substrates with hydrophilic/hydrophobic coatings)

IT Etching
Vapor deposition process
(plasma; fabrication of transparent web-textured glass or polymer substrates with hydrophilic/hydrophobic coatings)

IT Etching masks
(sputter etching masks; fabrication of transparent web-textured glass or polymer substrates with hydrophilic/hydrophobic coatings)

IT 75-46-7, Trifluoromethane 75-73-0, Carbon fluoride (CF₄) 116-14-3, Ethene, tetrafluoro-, processes 2551-62-4, Sulfur fluoride (SF₆) 137695-66-0, Cyclopropyne, difluoro (etching gas; fabrication of transparent web-textured glass or polymer substrates with hydrophilic/hydrophobic coatings)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 20 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:781322 HCAPLUS Full-text

DOCUMENT NUMBER: 135:338088

TITLE: Magnetic barrier for plasma in chamber exhaust

INVENTOR(S): Carducci, James D.; Noorbakhsh, Hamid; Lee, Evans Y.; Shan, Hongqing; Salimian, Siamak; Luscher, Paul E.; Welch, Michael D.

PATENT ASSIGNEE(S): Applied Materials, Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 11 pp., Cont. of U.S. Ser. No. 557,990.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20010032590	A1	20011025	US 2001-775173	20010131
US 6773544	B2	20040810		
US 6863835	B1	20050308	US 2000-557990	20000425
PRIORITY APPLN. INFO.:			US 2000-557990	A1 20000425

ED Entered STN: 26 Oct 2001

AB The invention concerns a plasma reactor employing a chamber enclosure including a process gas inlet and defining a plasma processing region. A workpiece support pedestal capable of supporting a workpiece at processing location faces the plasma processing region, the pedestal and enclosure being spaced from one another to define a pumping annulus therebetween having facing walls to permit the process of gas to be evacuated therethrough from the process region. A pair of opposing plasma confinement magnetic poles within one of the facing walls of the annulus, the opposing magnetic poles being axially displaced from one another. The magnetic poles are axially displaced below the processing location by a distance which exceeds a substantial fraction of a spacing between the facing walls of the annulus.

IC ICM H01L021-3065
ICS C23C016-00

INCL 118723000E

CC 76-12 (Electric Phenomena)

ST magnetic barrier plasma confinement chamber

IT Magnetic screening
Plasma
Semiconductor device fabrication
(magnetic barrier for plasma in chamber exhaust)

IT Reactors
(plasma; magnetic barrier for plasma in chamber exhaust)

IT Magnets
(poles; magnetic barrier for plasma in chamber exhaust)

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 21 OF 48 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:25988 HCAPLUS Full-text

DOCUMENT NUMBER: 132:80139

TITLE: Experience with modern heating systems on a straight-through furnace for magnetic strip

AUTHOR(S): Bonnet, Uwe; Opitz, Ulrich

CORPORATE SOURCE: Elektrotech-Gesellschaft, Bochum, Germany

SOURCE: Gaswaerme International (1999), 48(12), 713-714
CODEN: GWINAT; ISSN: 0020-9384

PUBLISHER: Vulkan-Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: German

ED Entered STN: 12 Jan 2000

AB Retrofitting of a continuous furnace for annealing magnetic steel strips with a gas-fired direct heating system is reported. Fully ceramic jet firing tubes with fully ceramic burners were installed. Above 850° the burners are switched over to flameless operation, resulting in low NOx formation.

CC 47-4 (Apparatus and Plant Equipment)
Section cross-reference(s): 51, 55

IT Burners
(ceramic; experience with modern heating systems on straight-through furnace for magnetic strip)

IT Furnaces
(gas-fired furnaces; experience with modern heating systems on straight-through furnace for magnetic strip)

=> d 22-42 full

L42 ANSWER 22 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS ON STN
 AN 2007-350925 [33] WPIX Full-text
 DNC C2007-127841 [33]
 DNN N2007-260316 [33]
 TI Microfluidic device for use in microorganisms, cells, particles and molecules analysis involves an electroless deposition of a ferromagnetic composition on polydimethylsiloxanes substrate surface
 DC A89; B04; D16; S03; T01; T04
 IN CARLSON R; GOTTSCHLING D E; HOLL M; KOSCHWANEZ J; MCMURRAY M; MELDRUM D R
 PA (UNIW-C) UNIV WASHINGTON; (HUTC-N) HUTCHINSON CANCER RES CENT FRED
 CYC 1
 PI US 20070031819 A1 20070208 (200733)* EN 59[32]
 ADT US 20070031819 A1 Provisional US 2005-674851P 20050426; US 20070031819 A1 US 2006-412819 20060426
 PRAI US 2006-412819 20060426
 US 2005-674851P 20050426
 IPCI C12M0001-34 [I,A]; C12M0001-34 [I,C]; C12Q0001-00 [I,A]; C12Q0001-00 [I,C]; G06K0009-00 [I,A]; G06K0009-00 [I,C]
 EPC G06K0009-00B
 NCL NCLM 435/004.000
 NCL5 382/128.000; 435/287.200
 AB US 20070031819 A1 UPAB: 20070523
 NOVELTY - A microfluidic device comprising a magnetic capture site capable of magnetically capturing a magnetically-labeled microorganism, cell, particle or molecule comprises microchannels disposed on the microfluidic device, ferromagnetic structures disposed on or within the microfluidic device, the ferromagnetic structures comprising a tapered end and a body, where the tapered end of the ferromagnetic structures is proximately located to one or more lumens of the microchannels, the ferromagnetic structures capable of being magnetized using a magnetic field source proximately located external to the body of the ferromagnetic structure.
 DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:
 (1) a method (M1), comprising providing a biologically-compatible substrate comprising a surface; depositing an electroless deposition catalyst on the surface of the biologically-compatible substrate, and electrolessly depositing a ferromagnetic composition on the surface of the biologically-compatible substrate; and
 (2) a system comprising a microfluidic device coupled to an imaging system where each of the magnetic capture sites are fluidically coupled to one or more collection receptacles.
 USE - For analyzing microorganisms, cells, particles and molecules, e.g., a magnetically-labeled yeast, bacteria or virus; magnetically labeled cell including a eukaryotic cell or a prokaryotic cell; a magnetically-labeled vesicle, liposome, or macromolecular complex; magnetically-labeled nucleic acid, amino acid or a carbohydrate.
 DESCRIPTION OF DRAWINGS - The figure is a photomicrograph depicting single yeast cell capture.
 TECH INSTRUMENTATION AND TESTING - Preferred Device: The microfluidic device comprises up to 1000 magnetic capture sites. The microfluidic device comprises a tapered end comprising a triangle, a point, a corner or a narrow rectangle comprising one or more point-like tips. Preferred Methods: (M1) comprises lithographically patterning the ferromagnetic composition using photolithography or imprint lithography. The magnetically-labeled molecule is controllably held using the magnetic field in the lumen, and the fluid medium flows out of the outlet. The fluid medium

comprises compounds or nutrients capable of being absorbed or metabolized by the magnetically-labeled organism or magnetically-labeled cell. The method comprises the step of controllably releasing the magnetically-labeled microorganism, cell, particle, or molecule from the magnetic field where the released cell is fluidically transported to a second microchannel, an agar plate, a test tube, a vial, a multiwell plate, a microreactor, a valve or an imaging area. The imaging system comprises at least one optical lens, optical fiber imaging bundle, optical fiber, optical detector, image processor, optical filter, mirror and light source. The imaging system filters out the noise introduced by the fiber optical bundle by: capturing a gray-scale image of one or more magnetic capture sites; smoothing the gray-scale image; converting the smoothed gray-scale image to a binary image using a locally generated threshold based on the mean and standard deviation of the subimage; and segmenting the binary image into regions of pixels.

FS CPI; EPI

MC CPI: A06-A00E; A12-L04; A12-W11L; B04-D01; B04-E01; B04-F01; B04-F09; B04-F10; B04-F11; B10-B02; B11-C08C1; B11-C08J; B11-C10A; B12-K04; D05-H04; D05-H05; D05-H06; D05-H09
EPI: S03-E14H; S03-H01B; T01-J13A; T04-D02

L42 ANSWER 23 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN

AN 2007-181416 [18] WPIX Full-text

DNC C2007-064423 [18]

DNN N2007-132251 [18]

TI Composite magnetic core for reactor, has high magnetic permeable magnetic core portion containing magnetic material, several dust core portions containing insulating material and magnetic powder, and gap between dust core portions

DC L03; X12; X21; X22

IN ABE T; HAMAKAKE H; NISHIO Y; OGURA K

PA (HITK-C) HITACHI METALS LTD

CYC 1

PI JP 2007012647 A 20070118 (200718)* JA 8[4]

ADT JP 2007012647 A JP 2005-187572 20050628

PRAI JP 2005-187572 20050628

IPCI C22C0038-00 [N,A]; C22C0038-00 [N,C]; C22C0045-00 [N,C]; C22C0045-02 [N,A]; H01F0001-12 [N,C]; H01F0001-22 [N,A]; H01F0027-24 [I,A]; H01F0027-24 [I,C]; H01F0027-255 [I,A]; H01F0027-255 [I,C]; H01F0037-00 [I,A]; H01F0037-00 [I,C]

AB JP 2007012647 A UPAB: 20070314

NOVELTY - The composite magnetic core is an annular composite magnetic core comprising a high magnetic permeable magnetic core portion (11,12), several dust core portions (21-26) and gap (31-34) provided between dust core portions. The magnetic core portion contains a magnetic material having maximum relative magnetic permeability of 500 or more. The dust core portion contains an insulating material and a magnetic powder.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for reactor.

USE - For reactor used for power supply circuit used for driving electric motor of hybrid vehicle.

ADVANTAGE - The composite magnetic core has high-saturated flux density, low magnetic core loss characteristics and favorable inductance characteristics, and suppresses reduction of magnetic permeability.

DESCRIPTION OF DRAWINGS - The figure shows the composite magnetic core.

Magnetic permeable magnetic core portions (11,12)

Dust core portions (21-26)

Gap (31-34)

TECH INORGANIC CHEMISTRY - Preferred Component: The magnetic component is

amorphous soft magnetic strip or fine crystal soft magnetic strip. The magnetic powder is iron silicon-type alloy powder, iron silicon aluminum-type alloy powder, amorphous soft magnetic powder or fine crystalline soft magnetic powder.

FS CPI; EPI

MC CPI: L03-B06; L03-H05

EPI: X12-C01A; X12-C01F; X21-B; X22-P04A

L42 ANSWER 24 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN

AN 2008-D34505 [25] WPIX Full-text

DNC C2008-109097 [25]

DNN N2008-262377 [25]

TI Oil immersed hollow reactor for active field full magnetic shielding, has magnetic shielding case grounded effectively via point, and strip-shaped silicon steel sheet of magnetic barrier shields upright with plane of octagonal oil box

DC A85; L03; V02; X12

IN WEN H; WEN Z

PA (WENH-I) WEN H

CYC 1

PI CN 200986849 Y 20071205 (200825)* ZH 12[4]

ADT CN 200986849 Y CN 2006-2013339U 20061005

PRAI CN 2006-2013339U 20061005

IPCI H01F0027-34 [I,C]; H01F0027-36 [I,A]; H01F0037-00 [I,A]; H01F0037-00 [I,C]

AB CN 200986849 Y UPAB: 20080417

NOVELTY - The reactor has a radialized octagonal magnetic shield plate (9) placed at two ends of a hollow reactor winding (14). The plate is formed by eight fan-shaped magnetic shields. Eight magnetic barrier shields (6) are placed radially around the winding along the circumference. A squirrel-cage-shaped full magnetic shielding case is formed by the plate and the barrier shields. The shielding case is grounded effectively via a point. A strip-shaped silicon steel sheet of the barrier shields laid on an end plane of a silicon steel sheet is upright with a plane of an octagonal oil box.

USE - Used for active field full magnetic shielding in an electric power system.

ADVANTAGE - The magnetic shielding case is grounded effectively through a point, so that the electromagnetism leakage field and electromagnetism leakage energy of the hollow reactor can be controlled in interior of the reactor, thus preventing the pollution. The supplementary load loss is low, and the noise is less. The oil box and other metal components do not produce local overheating. The reactor provides environmental protection and saves energy.

DESCRIPTION OF DRAWINGS - The drawing shows a partial sectional view of an oil immersed hollow reactor.

Magnetic barrier shields (6)

Magnetic shield plate (9)

Hollow reactor winding (14)

FS CPI; EPI

MC CPI: A12-E01A; L03-G06

EPI: V02-G01C; V02-G02D; X12-C01F; X12-C04

L42 ANSWER 25 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN

AN 2006-248968 [26] WPIX Full-text

DNN N2006-213215 [26]

TI Electroinductive apparatus

DC V02; X12

IN KOVALEV B F; SHKOLNIKOV V A

PA (KOVA-I) KOVALEV B F; (SHKO-I) SHKOLNIKOV V A

CYC 1
 PI RU 2273910 C2 20060410 (200626)* RU [1]
 ADT RU 2273910 C2 RU 2003-105396 20030225
 PRAI RU 2003-105396 20030225
 IPCR H01F0017-06 [I,A]; H01F0017-06 [I,C]; H01F0030-06 [I,C]; H01F0030-16 [I,A]
 AB RU 2273910 C2 UPAB: 20060421
 NOVELTY - Proposed shell-core apparatus relates to ac transformers or line reactors designed for power conversion in electric circuits to control and regulate current and voltage in electric, lighting, and radio installations, as well as ballast and current-limiting resistors. Its core and side yokes are made in the form of hollow cylindrical magnetic circuits wound of magnetic strip and installed so that core-mounted winding or windings are disposed in space between outer side surface of core and inner side surface of side yoke. Core of each of transverse yokes is built of a number of trapezoidal parts distributed over butt-end surface of apparatus magnetic system and wound of magnetic strip; they function to close core and side yoke in directions radial with respect to core axis.
 USE - Electrical engineering.
 ADVANTAGE - Simplified design, facilitated manufacture, reduced height and magnetic material consumption.1 cl, 6 dwg
 FS EPI
 MC EPI: V02-G01A; X12-C01E
 L42 ANSWER 26 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
 AN 2007-028087 [04] WPIX Full-text
 DNC C2007-010778 [04]
 DNN N2007-022036 [04]
 TI Fine crystal alloy thin strip for magnetic core, has specific composition containing iron, copper, boron and silicon, and has preset relative magnetic permeability, magnetostriction rate and saturation magnetic flux density
 DC L03; M24; M27; V02; X12
 IN FUJIMOTO Y; YOSHIDA T
 PA (HITK-C) HITACHI METALS LTD
 CYC 1
 PI JP 2006291234 A 20061026 (200704)* JA 14[8]
 ADT JP 2006291234 A JP 2005-108897 20050405
 PRAI JP 2005-108897 20050405
 IPCI C21D0006-00 [I,A]; C21D0006-00 [I,C]; C22C0038-00 [I,A]; C22C0038-00 [I,C]; C22C0045-00 [I,C]; C22C0045-02 [I,A]; H01F0001-12 [I,C]; H01F0001-16 [I,A]
 AB JP 2006291234 A UPAB: 20070115
 NOVELTY - The fine crystal alloy thin strip has a specific composition containing iron, copper, boron and silicon. The fine crystal alloy thin strip has relative magnetic permeability (μ') of 20000-40000 in frequency of 1 kHz and applied voltage of 0.5 V, magnetostriction rate of less than or equal to 40% and saturation magnetic flux density (B800) of 1.45T-1.60T.
 DETAILED DESCRIPTION - The fine crystal alloy thin strip has a composition given by Fe-Cu-M'-B-Si, where M' is selected from niobium, tungsten, tantalum, zirconium, hafnium, titanium and molybdenum. The fine crystal alloy thin strip has relative magnetic permeability (μ') of 20000-40000 in frequency of 1 kHz and applied voltage of 0.5 V, magnetostriction rate of less than or equal to 40% and saturation magnetic flux density (B800) of 1.45T-1.60T. The fine crystal alloy thin strip satisfies a preset relation involving frequency (f) in which magnetostriction resonance appears, relative magnetic permeability (μ') in magnetostriction resonant frequency, relative magnetic permeability (μ_{30}) in 30 kHz and relative magnetic permeability (μ_{200}) in 200 kHz.
 USE - For magnetic core, transformer and reactor.

ADVANTAGE - The fine crystal alloy thin strip has high saturated magnetic flux density and low magnetostriction, and is inexpensive.

TECH METALLURGY - Preferred Composition: The compositional formula of fine crystal alloy thin strip is given by: $(\text{Fe}-a\text{M})100-x-y-z-b-c-d\text{CuxSiyBzM'bM'cXd}$, where M is cobalt and/or nickel, M' is niobium, tungsten, tantalum, zirconium, hafnium, titanium and/or molybdenum, M is vanadium, chromium, manganese, aluminum, platinum element, scandium, yttrium, and gold, zinc, tin and/or rhenium, X is carbon, germanium, phosphorus, gallium, antimony, indium, beryllium and/or arsenic, a is greater than or equal to 0 and less than 0.5, x is 0.1-3, y is 8-15, z is 0-9.5, b is 0.1-30, c is 0-10, and d is 0-10.

FS CPI; EPI

MC CPI: L03-B02A3; M24-D02; M27-A04; M27-A04B; M27-A04C; M27-A04S; M27-A04X; M27-D

EPI: V02-A02A2; V02-A02A8; V02-G01A; V02-G01C; V02-G02A2; X12-C01A; X12-C01E; X12-C01F

L42 ANSWER 27 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS ON STN

AN 2006-017668 [02] WPIX Full-text

CR 2006-017667

DNC C2006-005352 [02]

DNN N2006-015462 [02]

TI Multi-stage deposition method of metal barrier in magnetron sputter reactor, involves applying direct current power to tantalum target, and applying current to electromagnetic coils wrapped around central axis of reactor

DC L03; U11; V05; X25

IN FORSTER J C; FU X; GILLARD A S; GOPALRAJA P; GUNG T; GUNG T J; HAMMOND E P; HAMMOND E P I; PERRIN M A; SUNDARRAJAN A; FORSTER J; GILLARD A; HAMMOND E

PA (MATE-N) APPLIED MATERIALS INC

CYC 110

PI US 20050263390 A1 20051201 (200602)* EN 23[24]
WO 2005118907 A1 20051215 (200602) EN
EP 1774054 A1 20070418 (200729) EN
CN 1950538 A 20070418 (200759) ZH
KR 2007015937 A 20070206 (200801) KO
JP 2008500457 W 20080110 (200806) JA 29

ADT US 20050263390 A1 Provisional US 2004-574905P 20040526; US 20050263390 A1 CIP of US 2004-950349 20040923; US 20050263390 A1 US 2005-119350 20050429; CN 1950538 A CN 2005-80013590 20050520; EP 1774054 A1 EP 2005-752116 20050520; WO 2005118907 A1 WO 2005-US17828 20050520; EP 1774054 A1 WO 2005-US17828 20050520; KR 2007015937 A WO 2005-US17828 20050520; KR 2007015937 A KR 2006-722292 20061026; JP 2008500457 W WO 2005-US17828 20050520; JP 2008500457 W JP 2007-515204 20050520

FDT EP 1774054 A1 Based on WO 2005118907 A; KR 2007015937 A Based on WO 2005118907 A; JP 2008500457 W Based on WO 2005118907 A

PRAI US 2005-119350 20050429
US 2004-574905P 20040526
US 2004-950349 20040923

IPCI C23C0014-34 [I,A]; C23C0014-34 [I,C]; C23C0014-34 [I,C]; C23C0014-35 [I,A]; C23C0014-35 [I,C]; C23C0014-35 [I,C]; C23C0016-00 [I,A]; C23C0016-00 [I,C]; C23F0001-02 [I,A]; C23F0001-02 [I,C]; H01L0021-02 [I,C]; H01L0021-28 [I,A]; H01L0021-285 [I,A]; H01L0021-70 [I,C]; H01L0021-768 [I,A]; H05H0001-24 [I,A]; H05H0001-24 [I,C]; H05H0001-46 [I,A]; H05H0001-46 [I,C]

IPCR C23C0014-04 [I,A]; C23C0014-04 [I,C]; C23C0014-06 [I,A]; C23C0014-06 [I,C]; C23C0014-16 [I,A]; C23C0014-16 [I,C]; C23C0014-32 [I,A]; C23C0014-32 [I,C]; C23C0014-35 [I,A]; C23C0014-35 [I,C]; C23C0016-00 [I,A]; C23C0016-00 [I,C]; C23F0001-02 [I,A]; C23F0001-02 [I,C];

C23F0004-00 [I,A]; C23F0004-00 [I,C]; H01J0037-32 [I,A]; H01J0037-32 [I,C]; H01J0037-34 [I,A]; H01L0021-02 [I,C]; H01L0021-285 [I,A]; H01L0021-70 [I,C]; H01L0021-768 [I,A]

EPC C23C0014-04D; C23C0014-06F; C23C0014-16B; C23C0014-35F6; C23F0004-00; H01J0037-32D1C; H01J0037-34M2A; H01L0021-285B4F; H01L0021-768C3; H01L0021-768C3B2; H01L0021-768C3B4; H01L0021-768C3D6

ICO T01J0237:323D10D; T01J0237:325B; T01J0237:325B6

NCL NCLM 204/192.170

NCLS 204/192.150; 257/E21.169

AB US 20050263390 A1 UPAB: 20060125

NOVELTY - The method involves applying direct current (DC) power to tantalum target arranged in a magnetron sputter reactor, and applying current to the electromagnetic coils wrapped around central axis of reactor. A radio frequency power is applied to RF coil arranged around central axis, and a bias power is applied to a pedestal electrode.

USE - For forming metal barrier on substrate during fabrication of semiconductor integrated circuit, in magnetron sputter reactor.

ADVANTAGE - Enables performing easy process optimization using a flexible sputter reactor.

DESCRIPTION OF DRAWINGS - The figure shows a flowchart explaining the multi-stage deposition process and etching process.

FS CPI; EPI

MC CPI: L04-C10F; L04-D02

EPI: U11-C05C2; U11-C09A; V05-F05C3A; V05-F05E5; V05-F08D1A; X25-A04

L42 ANSWER 28 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS ON STN

AN 2006-215201 [23] WPIX Full-text

DNC C2006-071107 [23]

DNN N2006-184466 [23]

TI Manufacture of electron accepting compound for color developer, involves reacting alkyl isocyanate compound and aminoalkyl carboxylic acid compound with condensing agent, activator and aminophenol

DC E13; G05; G06; P75; P76

IN FURUYA H; OKADA T; SHIBUYA T; TORII M; TSUTSUI K

PA (RICO-C) RICOH KK

CYC 1

PI JP 2005263736 A 20050929 (200623)* JA 24[15]

ADT JP 2005263736 A JP 2004-81170 20040319

PRAI JP 2004-81170 20040319

IPCR B41M0005-26 [I,A]; B41M0005-26 [I,C]; B41M0005-30 [I,A]; B41M0005-30 [I,C]; B41M0005-333 [I,A]; B41M0005-337 [I,A]; B42D0015-10 [I,A]; B42D0015-10 [I,C]; C07C0273-00 [I,C]; C07C0273-18 [I,A]; C07C0275-00 [I,C]; C07C0275-16 [I,A]

AB JP 2005263736 A UPAB: 20060405

NOVELTY - A long-chain alkyl isocyanate compound and an aminoalkyl carboxylic acid compound are made to react in order with a condensing agent, an activator and aminophenol in the same solvent, to form a phenolic electron accepting compound (I).

DETAILED DESCRIPTION - A long-chain alkyl isocyanate compound and an aminoalkyl carboxylic acid compound are made to react in order with a condensing agent, an activator and aminophenol in the same solvent, to form a phenolic electron accepting compound of formula (I).

m=2-11; and
n=6-21.

INDEPENDENT CLAIMS are included for the following:

(1) color developer which contains above electron accepting compound;

(2) reversible thermosensitive recording medium which has a thermal layer formed on a support. The thermal layer contains the color developer for reversible thermosensitive recording and an electron donating coloring compound, and reversibly changes color tone depending on temperature; and

(3) reversible thermosensitive recording component which has an information storage portion and a reversible display portion. The reversible display portion contains the recording medium.

USE - For reversible thermosensitive recording medium used in reversible thermosensitive recording components (both claimed) such as prepaid card, credit card and recording label.

ADVANTAGE - The method quickly forms phenolic electron accepting compound with high yield. The color developer containing the electron accepting compounds has excellent color development concentration. The recording medium containing the color developer has excellent rerecording property, and forms image having excellent stability.

TECH ORGANIC CHEMISTRY - Preferred Compound: The solvent is N,N'-dimethyl formamide.

Preferred Process: The reaction temperature is 40-90degreesC. The mixing ratio of long-chain alkyl isocyanate compound, aminoalkyl carboxylic acid compound, condensing agent, activator and aminophenol is 1:1-1.1:0.8-2:0.2-1.2:1-1.5. The yield of electron accepting compound is 90% or more.

Preferred Medium: The recording medium is in the shape of card, label or sheet. The recording portion is chosen from magnetic thermal layer, magnetic stripes, intergraded circuit memory, optical memory, disc, disc cartridge and tape cassette.

ABEX SPECIFIC COMPOUNDS - The condensing agent is N,N'-dicyclohexyl carbodiimide or N,N'-diisopropyl carbodiimide. The activator is 1-hydroxy benzotriazole.

EXAMPLE - N,N'-Dimethyl formamide (900 ml) and epsilon-aminocaproic acid (in g) (10), were taken in a reactor and added with octadecyl isocyanate (22.53). The mixture was reacted at 90degreesC for 3 hours and added with 1-hydroxy benzotriazole (10.3) and diisopropyl carbodiimide (9.62). The mixture was stirred for 30 minutes, added with p-aminophenol (8.32) and stirred at 80degreesC for 3 hours. The mixture was cooled to room temperature, filtered and washed with methanol to form crystals of N-(4-hydroxyphenyl)-6-((N-n-octadecyl carbamoyl)amino)hexane amide.

FS CPI; GMPI

MC CPI: E10-A13B1; G06-F08A

L42 ANSWER 29 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS ON STN

AN 2005-198924 [21] WPIX Full-text

DNC C2005-063125 [21]

TI Spaceship deuterium fusion reactor powered motor includes porous palladium cathode and platinum anode in magnetized vessel

DC K05; Q55; X14

PA (DIAZ-I) ARTEAGA DIAZ J

CYC 1

PI ES 2224848 A1 20050301 (200521)* ES 1[1]

ES 2224848 B1 20060801 (200652) ES

ADT ES 2224848 A1 ES 2003-1041 20030507

FRAI ES 2003-1041 20030507

IPCI F03H0001-00 [I,A]; F03H0001-00 [I,C]; G21B0001-00 [I,A]; G21B0001-00 [I,C]

IPCR F03H0001-00 [I,A]; F03H0001-00 [I,C]; G21B0001-00 [I,A]; G21B0001-00 [I,C]

AB ES 2224848 A1 UPAB: 20050708

NOVELTY - A spaceship deuterium fusion reactor powered motor has an orientator for the spin of the particles of the reaction based on two electrodes and poles connected to a D.C. circuit. The porous palladium cathode and the platinum anode generate a stream of ions accelerated by an electric field in the magnetized strip.

USE - Used in power engineering.

FS CPI; GMPI; EPI
 MC CPI: K05-A03
 EPI: X14-A03

L42 ANSWER 30 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN

AN 2004-292238 [27] WPIX Full-text

DNN N2004-231951 [27]

TI Starting-and-control gear for fluorescent lighting fixtures
 DC X26

IN ERMILOV M A; LIVSHITS V I

PA (ERMI-I) ERMILOV M A; (LIVS-I) LIVSHITS V I

CYC 1

PI RU 2223614 C2 20040210 (200427)* RU 0[1]

ADT RU 2223614 C2 RU 2000-101085 20000120

PRAI RU 2000-101085 20000120

IPCR H05B0041-16 [I,A]; H05B0041-16 [I,C]

AB RU 2223614 C2 UPAB: 20050528

NOVELTY - Proposed starting-and-control gear characterized in functional integration of two ballast reactors incorporated in unitized electromagnetically active two-phase inductive module is used for fluorescent lighting fixtures having at least two gas-discharge lamps and two parallel ac power circuits for lamps. Connected in each of these circuits in parallel with lamps are ballast reactors each having winding and ferromagnetic core; in addition phase-shifting capacitor is connected in series with reactor in one of (any) circuits. Windings and cores of both ballast reactors are physically integrated into spatially coupled coils or coil groups wound with electrically insulated wire or ferromagnetic strip so that winding of one of reactors uses winding of other reactor as core, and vice versa. It will be good practice to wind mentioned coils or coil groups of unalloyed annealed low-carbon steel wire or strip. In some cases steel strip is reasonable to plate with aluminum or copper in the amount of 5 to 15% of strip width.

USE - Lighting engineering.

ADVANTAGE - Reduced cost of starting-and-control gear, simplified design of lighting fixtures. 3 cl, 2 dwg

FS EPI

MC EPI: X26-C01B2; X26-C01B5

L42 ANSWER 31 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN

AN 2004-511012 [49] WPIX Full-text

DNC C2004-189661 [49]

DNN N2004-404132 [49]

TI Amorphous alloy thin strip, for magnetic cores, comprises cobalt-manganese-silicon-boron group complex having specific composition

DC L03; M26; V02

IN KUSAKA T; NAKAGAWA K; SAITO T; SAWA T

PA (TOKE-C) TOSHIBA KK

CYC 1

PI JP 2004176167 A 20040624 (200449)* JA 18[1]

ADT JP 2004176167 A JP 2002-347252 20021129

PRAI JP 2002-347252 20021129

IPCR C22C0045-00 [I,C]; C22C0045-04 [I,A]; H01F0001-12 [I,C]; H01F0001-153 [I,A]

AB JP 2004176167 A UPAB: 20050530

NOVELTY - The amorphous alloy thin strip comprises a cobalt-manganese-silicon-boron group complex of specific composition.

DETAILED DESCRIPTION - The amorphous alloy thin strip comprises a cobalt-manganese-silicon-boron group complex of specific compositional formula given by: (CoMnBMcT(1-a-b-c))xSiYBz.

M = vanadium, niobium, tantalum, chromium, molybdenum and/or tungsten;

T = iron and/or nickel;
 a = 0.855-0.945;
 b = 0.06-0.09;
 c = 0-0.5;
 x = 74-77;
 z = 10 to at least 15;
 (y+z) = 23-26;
 (1-a-b-c)/a = 0 - 0.005;
 (x/y) = 5 to at most 7; and
 (x+y+z) = 100 atomic%.

An INDEPENDENT CLAIM is included for a magnetic core formed using the above alloy.

USE - For magnetic core (claimed), used for vehicle-mounted electronic components, saturable reactors, and noise suppression elements.

ADVANTAGE - The novel amorphous alloy thin strip has excellent magnetic characteristics and stability, even at high temperatures, and favorable heat resistance. It does not undergo embrittlement, and stable magnetic characteristics are maintained in normal and high temperature environment.

DESCRIPTION OF DRAWINGS - The figure shows the relationship between average board thickness of the above alloy strip, and fracture frequency. (Drawing includes non-English language text).

FS CPI; EPI

MC CPI: L03-B02A4; M26-B08; M26-B08B; M26-B08M; M26-B08S

EPI: V02-A02A2

L42 ANSWER 32 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS ON STN

AN 2004-394456 [37] WPIX Full-text

DNN N2004-314054 [37]

TI Wound core for reactor, has magnetic strip material with inner end welded with material after partial winding, and external end welded with magnetic material at predetermined position with respect to inner end, after winding

DC S01; V02; X12

IN TERAKAWA S; TSUKAMOTO Y; WATABE K

PA (MITQ-C) MITSUBISHI ELECTRIC CORP

CYC 1

PI JP 2004119826 A 20040415 (200437)* JA 16[11]

ADT JP 2004119826 A JP 2002-283394 20020927

PRAI JP 2002-283394 20020927

IPCR H01F0041-02 [I,A]; H01F0041-02 [I,C]

AB JP 2004119826 A UPAB: 20050529

NOVELTY - The winding core is formed by winding a strip-shaped magnetic material. An inner end of the magnetic material is partially wound on a winding shaft (24), and welded with the material. The external end of the magnetic material after winding, is welded with the magnetic material at predetermined position with respect to the inner end.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) wound core manufacturing method; and

(2) wound core manufacturing apparatus.

USE - Wound core for current transformer, transformer, choke coil and reactor.

ADVANTAGE - The relative positioning of the both ends of the magnetic strip material, is performed efficiently by simple process.

DESCRIPTION OF DRAWINGS - The figure shows a perspective view of the wound core. (Drawing includes non-English language text).

winding shaft (11)

wound core isolation flange (12)

welding points (22,23)

wound core (24)

FS EPI
MC EPI: S01-D01D1A; V02-G01A; V02-G01B; V02-G01C; V02-H03; X12-C01D1;
X12-C01E; X12-C01F; X12-C01G

L42 ANSWER 33 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 2003-793955 [75] WPIX Full-text
DNC C2003-219659 [75]
DNN N2003-636357 [75]
TI Air-core cylindrical magnetic molding material used for
noise filter of super saturated reactor, is obtained by
compression molding of rapid-cooling thin magnetic
strip by cylindrical convergence shock wave
DC L03; M22; P53; V02; X12
IN DOKE K; KAKIMOTO E
PA (ASAH-C) ASahi KASEI KK
CYC 1
PI JP 2003243213 A 20030829 (200375)* JA 5[1]
ADT JP 2003243213 A JP 2002-36878 20020214
PRAI JP 2002-36878 20020214
IPCR B22F0003-00 [I,A]; B22F0003-00 [I,C]; B22F0003-08 [I,A]; B22F0003-08
[I,C]; C22C0038-00 [I,A]; C22C0038-00 [I,C]; H01F0001-12 [I,C];
H01F0001-153 [I,A]
AB JP 2003243213 A UPAB: 20050601
NOVELTY - A rapid-cooling thin magnetic strip is compression molded by the
cylindrical convergence shock wave, to obtain an air-core cylindrical magnetic
molding material.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for
manufacturing method of magnetic molding material.
USE - For noise filter of electric power unit transformers and
supersaturated reactor.
ADVANTAGE - Obtains high density compression molding material with
specific density.

FS CPI; GMPi; EPI
MC CPI: L03-B02A; M22-H03A
EPI: V02-A02A; X12-C04

L42 ANSWER 34 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1997-515039 [48] WPIX Full-text
CR 1991-066662; 1994-265594
DNC C1997-164588 [48]
DNN N1997-428450 [48]
TI Producing thin soft magnetic alloy strip - comprises controlling
conditions and composition of iron based alloy at specified thickness
and having microcrystalline grains of specified size
DC L03; M27; T03; V02; W02
IN YAGI M
PA (TOKE-C) TOSHIBA KK; (YAGI-I) YAGI M
CYC 3
PI EP 800182 A1 19971008 (199748)* EN 19[6]
DE 68929436 E 20021219 (200307) DE
ADT EP 800182 A1 Div Ex EP 1989-308903 19890901; EP 800182 A1 Div Ex EP
1994-106741 19890901; EP 800182 A1 EP 1997-108840 19890901; DE
68929436 E DE 1989-68929436 19890901; DE 68929436 E EP 1997-108840
19890901
FDT EP 800182 A1 Div ex EP 414974 A; EP 800182 A1 Div ex EP 612082 A; DE
68929436 E Based on EP 800182 A
PRAI EP 1989-308903 19890901
EP 1994-106741 19890901
EP 1997-108840 19890901
IPCR H01F0001-12 [I,C]; H01F0001-153 [I,A]; H01F0041-02 [I,A]; H01F0041-02

[I,C]

EPC H01F0001-153F; H01F0041-02A2B

AB EP 800182 A1 UPAB: 20060113

Forming a thin iron based magnetic soft alloy strip comprises using an alloy of general formula (1): $\text{Fe}_{100-e-f-g-h-i-j}\text{EeGfGgSiHhBiZj}$, where E is selected from Cu and Au; G is at least one element selected from the groups IVa, Va, VIA, and the rare earth elements; J is selected from Mn, Al, Ga, Ge, In, Sn, and platinum group elements; Z is selected from C, N and P; $e=0.1-8$; $f=0.1-10$; $g=0-10$; $h=12-25$; $i=3-12$; $j=0-10$ and $h+j+j=15-30$; and the strip has a plate thickness of not more than 10 micron, and contains microcrystalline grains with a diameter of not more than 1000Å.

Also claimed is a magnetic core formed with the above thin alloy magnetic strip. Further claimed is an electromagnetic apparatus using the above magnetic core in conjunction with an electronic component.

USE - Used in the production of very thin soft magnetic alloy strip, for noise filters, saturable reactors, inductance elements, transformers, choke coil, magnetic heads or similar applications.

ADVANTAGE - An extremely thin amorphous alloy strip is formed, without defects such as pin holes or similar, with a high permeability and low core loss at various frequency levels. ABTD EP800182

Forming a thin iron based magnetic soft alloy strip comprises using an alloy of general formula (1): $\text{Fe}_{100-e-f-g-h-i-j}\text{EeGfGgSiHhBiZj}$, where E is selected from Cu and Au; G is at least one element selected from the groups IVa, Va, VIA, and the rare earth elements; J is selected from Mn, Al, Ga, Ge, In, Sn, and platinum group elements; Z is selected from C, N and P; $e=0.1-8$; $f=0.1-10$; $g=0-10$; $h=12-25$; $i=3-12$; $j=0-10$ and $h+j+j=15-30$; and the strip has a plate thickness of not more than 10 micron, and contains microcrystalline grains with a diameter of not more than 1000Å.

Also claimed is a magnetic core formed with the above thin alloy magnetic strip. Further claimed is an electromagnetic apparatus using the above magnetic core in conjunction with an electronic component.

USE

Used in the production of very thin soft magnetic alloy strip, for noise filters, saturable reactors, inductance elements, transformers, choke coil, magnetic heads or similar applications.

ADVANTAGE

An extremely thin amorphous alloy strip is formed, without defects such as pin holes or similar, with a high permeability and low core loss at various frequency levels.

CLAIMED ELECTROMAGNETIC APPARATUS

CLAIMED MAGNETIC CORE

The apparatus is a magnetic component including a magnetic core, such as a noise filter, saturable reactor, miniature inductance element for abating noise spike, choke coil, zero-phase current transformer, magnetic head or a switching power source.

The core is formed of at least a layer of a thin soft magnetic strip.

PREFERRED ALLOY STRIP

The thin Fe-based soft magnetic alloy strip (50) contains microcrystalline grains preferably existing in an area ratio between 25 to 95% and more preferably between 40 to 90%, to achieve stable soft magnetic properties. The upper limit of thickness for the thin Fe-based alloy strip (50) is 10 micron, so that the magnetic properties in the high frequency range are satisfactory and embrittlement of the strip improved. A bending test value for the strip, based on a function using the average thickness of the thin strip (50) should be not less than 1×10^{-3} . The strip is produced in a vacuum chamber (10) by flowing the molten alloy from a supply and

discharge system (12)(14) onto a single cooling roll (20), controlled to a specified peripheral speed to limit the strip size.

FS CPI; EPI

MC CPI: L03-B02A2; M27-A

EPI: T03-A04A; V02-H03; V02-H05; W02-H

L42 ANSWER 35 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS ON STN

AN 1995-178688 [23] WPIX Full-text

DNC C1995-082719 [23]

DNN N1995-140309 [23]

TI Performing chemical reactions under microwave irradiation - using laboratory appts. having improved monitoring, control and safety equipment

DC J04; X25

IN RANER K D; STRAUSS C R; THORN J S; TRAINOR R W

PA (CSIR-C) COMMONWEALTH SCI & IND RES ORG

CYC 57

PI WO 9511750 A1 19950504 (199523)* EN 33[4]

AU 9480532 A 19950522 (199534) EN

EP 725678 A1 19960814 (199637) EN [1]

AU 677876 B 19970508 (199727) EN

JP 09510907 W 19971104 (199803) JA 32[1]

EP 725678 A4 19970723 (199813) EN

US 5932075 A 19990803 (199937) EN

EP 725678 B1 20010822 (200149) EN

DE 69428048 E 20010927 (200164) DE

ES 2162870 T3 20020116 (200216) ES

KR 318550 B 20020814 (200311) KO

CA 2174841 C 20041207 (200481) EN

JP 3705807 B2 20051012 (200566) JA 15

ADT WO 9511750 A1 WO 1994-AU659 19941027; AU 9480532 A AU 1994-80532

19941027; AU 677876 B AU 1994-80532 19941027; CA 2174841 C CA

1994-2174841 19941027; DE 69428048 E DE 1994-69428048 19941027; EP

725678 A1 EP 1994-931452 19941027; EP 725678 A4 EP 1994-931452

19941027; EP 725678 B1 EP 1994-931452 19941027; DE 69428048 E EP

1994-931452 19941027; ES 2162870 T3 EP 1994-931452 19941027; EP 725678

A1 WO 1994-AU659 19941027; JP 09510907 W WO 1994-AU659 19941027; US

5932075 A WO 1994-AU659 19941027; EP 725678 B1 WO 1994-AU659 19941027;

DE 69428048 E WO 1994-AU659 19941027; KR 318550 B WO 1994-AU659

19941027; CA 2174841 C WO 1994-AU659 19941027; JP 3705807 B2 WO

1994-AU659 19941027; JP 09510907 W JP 1995-512308 19941027; JP 3705807

B2 JP 1995-512308 19941027; KR 318550 B KR 1996-702140 19960426; US

5932075 A US 1996-624629 19960625

FDT AU 677876 B Previous Publ AU 9480532 A; DE 69428048 E Based on EP

725678 A; ES 2162870 T3 Based on EP 725678 A; JP 3705807 B2 Previous

Publ JP 09510907 W; KR 318550 B Previous Publ KR 96705622 A; AU

9480532 A Based on WO 9511750 A; EP 725678 A1 Based on WO 9511750 A;

AU 677876 B Based on WO 9511750 A; JP 09510907 W Based on WO 9511750

A; US 5932075 A Based on WO 9511750 A; EP 725678 B1 Based on WO

9511750 A; DE 69428048 E Based on WO 9511750 A; KR 318550 B Based on

WO 9511750 A; CA 2174841 C Based on WO 9511750 A; JP 3705807 B2 Based

on WO 9511750 A

PRAI AU 1993-2072 19931028

IC ICM B01J019-02; B01J019-12

IPCR B01J0019-12 [I,A]; B01J0019-12 [I,C]; G01N0001-44 [I,A]; G01N0001-44

[I,C]; H05B0006-78 [I,A]; H05B0006-78 [I,A]; H05B0006-78 [I,C];

H05B0006-78 [I,C]; H05B0006-80 [I,A]; H05B0006-80 [I,A]; H05B0006-80

[I,C]; H05B0006-80 [I,C]

EPC B01J0019-12D6; G01N0001-44

AB WO 1995011750 A1 UPAB: 20060109

A reactor system, in which chemical reactions may be performed under microwave irradiation, is used to study chemical synthesis and kinetics under the influence of microwaves in the laboratory. The system provides improved monitoring, control and safety of the reactions.

The appts. consists of a microwave cavity (13) containing an enclosed reaction vessel (15). The cover (16) carries various means (e.g. a temperature sensor (20) and/or a press-sensor (17)) of monitoring the reactions occurring in the contents (23) of the vessel. The cover also carries a pressure relief valve/safety valve (18), a sampling system (19), and a heat exchange device (24) to control the temperature of the reagents. The heat-exchanger is pref. of the cold-finger type. A magnetic stripper system (22) is also provided. The detailed arrangement of the heat-exchanger, pressure sensor and temperature sensor is described and claimed. The temperature sensor may be e.g. a fibre-optic thermometer. The arrangement of the sampling device is also described and claimed.

Pref. the vessel itself is situated within the microwave cavity, but its cover is located outside the cavity. The cover may also carry a microwave emitter to introduce the microwaves directly into the interior of the vessel.

A method for performing a chemical reaction is also claimed.

USE - For studying chemical reactions under microwave influence.

Especially useful for the laboratory study of chemical synthesis and kinetics in the presence of microwaves.

ADVANTAGE - Gives effective monitoring and improved control and safety of the reactions.

ABDT WO9511750

A reactor system, in which chemical reactions may be performed under microwave irradiation, is used to study chemical synthesis and kinetics under the influence of microwaves in the laboratory. The system provides improved monitoring, control and safety of the reactions.

The appts. consists of a microwave cavity (13) containing an enclosed reaction vessel (15). The cover (16) carries various means (e.g. a temperature sensor (20) and/or a press-sensor (17)) of monitoring the reactions occurring in the contents (23) of the vessel. The cover also carries a pressure relief valve/safety valve (18), a sampling system (19), and a heat exchange device (24) to control the temperature of the reagents. The heat-exchanger is pref. of the cold-finger type. A magnetic stripper system (22) is also provided.

The detailed arrangement of the heat-exchanger, pressure sensor and temperature sensor is described and claimed. The temperature sensor may be

e.g. a

fibre-optic thermometer. The arrangement of the sampling device is also described and claimed.

Pref. the vessel itself is situated within the microwave cavity, but its cover is located outside the cavity. The cover may also carry a microwave emitter to introduce the microwaves directly into the interior of the vessel.

A method for performing a chemical reaction is also claimed.

USE

For studying chemical reactions under microwave influence. Especially useful for the laboratory study of chemical synthesis and kinetics in the presence of microwaves.

ADVANTAGE

Gives effective monitoring and improved control and safety of the reactions.

CLAIMED METHOD

A reactant and/or solvent, capable of absorbing microwave energy, is fed into a robust vessel and exposed to microwave radiation. A heat-exchange system is then used to rapidly cool the reaction

products while they are still under pressure inside the vessel.
Use of the method for a specific reaction, the Willgerodt reaction, is claimed.

Other variants of the method are also claimed, e.g. the heat exchanger may be used to cool the vessel contents during the course of the exothermic reaction.

Another claim involves a reactant which is a poor microwave absorber at low temperature but a good absorber at high temperature. The heat-exchanger

is

used to heat the reactants by filling it with a medium which is a good microwave absorber, and then applying microwave energy. The radiation heats the medium which, in turn, heats the reactants until the reactants reach a temperature where they are themselves good absorbers of microwaves. (GW)

FS CPI; EPI

MC CPI: J04-C; J04-X

EPI: X25-B02B

L42 ANSWER 36 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN

AN 1995-274495 [36] WPIX Full-text

DNN N1995-209765 [36]

TI Retrofittable electronic and mechanical door lock system - has socket which transmits code to microprocessor based circuit that controls rotary two-dimensional motor.

DC Q47; X25

IN AYDIN K

PA (AYDI-I) AYDIN K; (SOKO-I) SOKOL D

CYC 1

PI US 5437174 A 19950801 (199536)* EN 11[12]

ADT US 5437174 A US 1992-977561 19921117

PRAI US 1992-977561 19921117

IPCR E05B0047-00 [I,A]; E05B0047-00 [I,C]; E05B0047-06 [I,A]; E05B0047-06

[I,C]; G07C0009-00 [I,A]; G07C0009-00 [I,C]

EPC E05B0047-00D; E05B0047-06C; E05B0047-06D; G07C0009-00E14B

AB US 5437174 A UPAB: 20060110

The lock system comprises an electronic socket adapted to read digital code from a portable electronic key inserted into it. An electronic circuit verifies the code with the stored code and produces a control signal upon the verification of the code the electronic circuit including a programmable microprocessor and being connected to the socket. A rotary bi-directional direct current motor controlled by the electronic circuit has an output shaft. A gear reduction system has a series of meshing gears and is driven by the motor output shaft, the reduction system having a reaction ratio of at least 50:1 and having a rotatable output gear. A transfer mechanism is driven by the reduction system output gear. A battery is connected to the motor and electronic circuit. A slide is mounted for vertical sliding motion and slidable by the transfer mechanism.

ADVANTAGE - Avoids contact and reading problems from multi-contacts on card or magnetic strip.

FS GMPI; EPI

MC EPI: X25-M01

L42 ANSWER 37 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN

AN 1992-411012 [50] WPIX Full-text

DNN N1992-313530 [21]

TI Saturable reactor including no asbestos paper between metallic magnetism strips - has small size by increasing pulse compression performance through rising area occupation ratio of coil iron core

DC V02

IN SERIZAWA T
 PA (TOKE-C) TOSHIBA KK
 CYC 1
 PI JP 04307718 A 19921029 (199250)* JA 4[6]
 ADT JP 04307718 A JP 1991-71432 19910404
 PRAI JP 1991-71432 19910404
 IPCR H01F0027-24 [I,A]; H01F0027-24 [I,C]; H01F0027-25 [I,A]; H01F0027-25 [I,C]; H01F0029-00 [I,C]; H01F0029-14 [I,A]; H01S0003-097 [I,A]; H01S0003-097 [I,C]
 FS EPI
 MC EPI: V02-G01C; V02-G02A2

L42 ANSWER 38 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
 AN 1991-300496 [41] WPIX Full-text
 DNC C1991-130436 [16]
 DNN N1991-230053 [16]
 TI Amorphous alloy thin strip for magnetic core of saturable reactor - comprises cobalt-iron-niobium-chromium or molybdenum-chromium Dwg 1/3
 DC L03; M26; M27; V02; W03
 IN NAKAGAWA K; SAWA T; WATANABE Y
 PA (TOKE-C) TOSHIBA KK
 CYC 1
 PI JP 03201413 A 19910903 (199141)* JA
 ADT JP 03201413 A JP 1989-339723 19891228
 PRAI JP 1989-339723 19891228
 IPCR H01F0001-12 [I,C]; H01F0001-153 [I,A]; H04N0003-02 [I,C]; H04N0003-04 [I,A]
 EPC H01F0001-153G
 AB JP 03201413 A UPAB: 20050502
 The permanent magnet contains 27.5-33.5 weight% R (R = at least one of rare earth elements including Y), 0.8-1.2 weight% B, 50-3000 ppm O₂, and 700-1200 ppm C, and balance substantially T (T = Fe or Fe and Co). A coating is formed on the surface of the permanent magnet using the permanent magnet as electrodes.
 USE - Used for permanent magnets having high corrosion resistance, and very high squareness ratio of Hk/iHc. @ (9pp Dwg.No.0/0)
 FS CPI; EPI
 MC CPI: L03-B06; M26-B08; M26-B08C; M26-B08J; M26-B08X
 EPI: V02-A02A2; W03-A08A9

L42 ANSWER 39 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
 AN 1986-238009 [36] WPIX Full-text
 DNN N1986-177631 [21]
 TI Transformers and chokes induction unit - has ports made in protrusions at clamping unit opposite ends
 DC V02
 IN SHUMLYAEV E S; TRETINIKOV V V; VISHNYAKOV A M
 PA (MIEL-R) MINSK ELECTR WKS
 CYC 1
 PI SU 1210148 A 19860207 (198636)* RU 2[3]
 ADT SU 1210148 A SU 1982-3444422 19820525; SU 1210148 A SU 1982-3A44422 19820525
 PRAI SU 1982-3444422 19820525
 IPCR H01F0027-30 [I,A]; H01F0027-30 [I,C]
 AB SU 1210148 A UPAB: 20050425
 Induction unit consists of cut tape magnetic conductor (1) with the windings (2), clamping unit (3) with the ports (4) and protrusions (5) placed at the clamping unit opposite ends as well as protrusions (6) passing through the ports (4) and the shroud (7). Each end of the shroud has two bends made in

opposite directions the first one accommodating the protrusion (5) at the end of the clamping unit and the second one engaging the protrusion (6) passing through the clamping unit port (4). The magnetic conductor (1) and the winding (2) are assembled on the clamping unit (3). This is followed by the introduction of the shroud (7), bending of the ends (8) and insertion into the port (4) between the protrusions (5). The protrusions (5,6) form a secure clamp fixing the tensioned shroud (7) ends (8).

USE/ADVANTAGE - Induction unit can be used in reactors and transformers with tape-strip magnetic conductors. Material usage is reduced by making ports in clamping unit protrusions. Bul.5/7.2.86

FS EPI
MC EPI: V02-G02B

L42 ANSWER 40 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN

AN 1984-044775 [08] WPIX Full-text

DNC C1984-018751 [21]

DNN N1984-034010 [21]

TI Position detector for nuclear reactor control rods - has non-magnetic strips for mounting lead switches and wiring

DC K05

IN MASE N; SHIRAKI T; TANAKA J

PA (HITA-C) HITACHI LTD

CYC 1

PI JP 59003201 A 19840109 (198408)* JA 6[8]

JP 02042161 B 19900920 (199042) JA

ADT JP 59003201 A JP 1982-112013 19820629; JP 02042161 B JP 1982-112013 19820629

PRAI JP 1982-112013 19820629

IPCR G01B0007-00 [I,A]; G01B0007-00 [I,C]; G01V0003-08 [I,A]; G01V0003-08 [I,C]; G21C0017-00 [I,A]; G21C0017-00 [I,C]; G21C0017-10 [I,A]; G21C0017-10 [I,C]

AB JP 59003201 A UPAB: 20050629

The device uses lead switches activated by the magnetic field of the magnets attached to the object to be traced. The device has two sets of non-magnetic strips with holes and grooves for mounting lead switches and wiring and installed in a protective tube.

Allows detection of control rod position built-in atomic reactor control rod drive mechanism without contacting the control rod. Protective tube has sufficient strength to protect lead switches, allowing accurate positioning of lead switches and protecting them from environment.

FS CPI
MC CPI: K05-B06; K05-B06A

L42 ANSWER 41 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN

AN 1981-33831D [19] WPIX Full-text

TI Diagonal slicer for rubber cord in tyre building - uses inductor as cutter carriage drive working with reactor strip and ferromagnetic yoke for straight cuts

DC A35; A95

IN MUSLAEV I M; PETROV B M; ZHERDEV I T

PA (DNME-R) DNEPR METALLURG INS; (TYRI-C) TYRE IND RES INST

CYC 1

PI SU 759335 B 19800830 (198119)* RU

ADT SU 759335 B SU 1978-2588773 19780309

IC IC B29H017-30

AB SU 759335 B UPAB: 20050419

The slicer uses a guide beam mounted on a frame to guide the slicer carriage which moves to and fro under power complete with knife. The objective is to avoid curves in the cut, with higher throughput, and the two-way drive for the

carriage consists of an inductor (6) rigidly mounted to the carriage (3) and working with a strip reactor (8) secured to the beam (1). The strip has a ferromagnetic yoke (7) as wide as the inductor. At the beam ends, the strip is pierced for ferromagnetic cores (9) at right angles to the strip surface.

FS CPI

MC CPI: A11-A05A; A12-T01C

L42 ANSWER 42 OF 48 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN

AN 1981-41418D [23] WPIX Full-text

TI Conductive windings in transformer or reactor - are of aluminium or copper and have intermediary insulating polymer film and lateral magnetic strips

DC L03; M26; V02; X12

IN LAMPE W

PA (ALLM-C) ASEA AB

CYC 1

PI SE 7904413 A 19801222 (198123)* SV

ADT SE 7904413 A SE 1979-4413 19790521

IC C22C038-00; H01F001-14; H01F027-38

AB SE 7904413 A UPAB: 20050419

The transformer or reactor has at least one winding formed by a spirally coiled foil of electrically conductive metal such as aluminium or copper. Between the windings is an insulating polymer film.

On each side of the spirally wound foil and coaxial with it is a spiral strip comprising one or more layers of magnetically conductive amorphous metal with high resistance. This strip has the same thickness as the conductive foil, and the polymer film extends outside the foil in an axial direction, providing insulation also between the windings of the strip of amorphous metal. The composition of the amorphous metal by weight is forty per cent iron, forty per cent nickel, 14 per cent phosphorus, six per cent boron. (Provisional Basic advised Week D04)

FS CPI; EPI

MC CPI: L03-B02C; L03-B02D; M26-B08B; M26-B08J; M26-B08P; M27-A00B; M27-A00N; M27-A00P

EPI: V02-G02B; X12-C01

=> d 43-48 ibib abs ind

L42 ANSWER 43 OF 48 JAPIO (C) 2008 JPO on STN

ACCESSION NUMBER: 2004-082118 JAPIO Full-text

TITLE: MICROREACTOR HAVING LIQUID PASSAGE FORMED OF MAGNETIC BARRIER

INVENTOR: AOGAKI RYOICHI; ITO EIKO; OGATA MIKIO

PATENT ASSIGNEE(S): AOGAKI RYOICHI

ITO EIKO

PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 2004082118	A	20040318	Heisei	B01J019-00

APPLICATION INFORMATION

STN FORMAT: JP 2003-302027 20030724

ORIGINAL: JP2003302027 Heisei

PRIORITY APPLN. INFO.: JP 2002-247776 20020725

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2004

AN 2004-082118 JAPIO Full-text

AB PROBLEM TO BE SOLVED: To provide a means for performing a plating onto a complicated shaped place or an etching or the like of a fine complicated pattern by reducing the viscous resistance by the wall of a fine liquid passage in a microreactor. SOLUTION: The microreactor includes a liquid introducing part, the fine liquid passage, and a liquid discharge part and the liquid passage is formed of a magnetic barrier composed of a belt-like ferro magnetic body. At least one kind of the operation of chemical reaction, mixing, extraction, and absorption on a liquid introduced from the introducing part and having magnetism is performed in the liquid passage. Plating or etching is carried out by passing a plating liquid or an etchant through the liquid passage. COPYRIGHT: (C)2004,JPO

IC ICM B01J019-00
ICS B01J019-08; C23C018-31; C23F001-02; C25D007-12; C25F003-14
ICA C25D005-02

L42 ANSWER 44 OF 48 PASCAL COPYRIGHT 2008 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 2003-0028583 PASCAL Full-text
COPYRIGHT NOTICE: Copyright .COPYRGT. 2003 INIST-CNRS. All rights reserved.

TITLE (IN ENGLISH): Influence of the q-profile shape on plasma performance in JET : Advanced Tokamak research in EFDA-JET during the 2000-2001 experimental campaigns

AUTHOR: CHALLIS C. D.; LITAUDON X.; TRESSSET G.; BARANOV Yu F.; BECOULET A.; GIROUD C.; HAWKES N. C.; HOWELL D. F.; JOFFRIN E.; LOMAS P. J.; MAILLOUX J.; MANTINEN M. J.; STRATTON B. C.; WARD D. J.; ZASTROW K-D

CORPORATE SOURCE: Euratom/UKAEA Fusion Association, Culham Science Centre, Abingdon, Oxon OX14 3DB, United Kingdom; Association Euratom-CEA pour la Fusion, CEA Cadarache, 13108 Saint Paul-lez-Durance, France; Helsinki University of Technology, Association Euratom-Tekes, PO Box 2200, 02015 HUT, Finland; Princeton Plasma Physics Laboratory, Princeton University, Princeton, NJ 08543, United States
EFDA-JET workprogramme, INC

SOURCE: Plasma physics and controlled fusion, (2002), 44(7), 1031-1055, 61 refs.
ISSN: 0741-3335 CODEN: PPCFET

DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United Kingdom
LANGUAGE: English
AVAILABILITY: INIST-7606C, 354000104398500020

AN 2003-0028583 PASCAL Full-text
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AB The fusion performance of JET plasmas can be enhanced by the generation of internal transport barriers. The influence of the q-profile shape in the local and global plasma performance has been investigated in cases where the core magnetic shear ranges from small and positive to large and negative. Internal barriers extending to large plasma radii can be effective in raising the global performance of the plasma. It is found that such barriers tend to be generated more easily if the q-profile contains a region of negative magnetic shear. The formation is favoured by neutral beam injection compared with ion cyclotron resonance heating in scenarios where the two systems are used together. The minimum power level required to observe a local transport reduction is significantly lower than the value at which very steep pressure gradients can be achieved. This results in a practical threshold in the power

to access a regime of high plasma performance that is sensitive to the q-profile shape.

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CC 001B50B25F; Physics; Plasma physics
001B50B55F; Physics; Plasma physics
001D06D04E; Applied sciences; Energy; Thermal use of fuels; Nuclear power plants; Nuclear reactors
230; Energy

CCFR 001B50B25F; Physique; Physique des plasmas
001B50B55F; Physique; Physique des plasmas
001D06D04E; Sciences appliquees; Energie; Utilisation thermique des combustibles; Centrales nucleaires, Reacteurs nucleaires
230; Energie

CCES 001B50B25F; Fisica; Fisica de los plasmas
001B50B55F; Fisica; Fisica de los plasmas
001D06D04E; Ciencias aplicadas; Energia; Utilizacion termica de los combustibles; Centrales nucleares, Reactores nucleares
230; Energia

PAC 5225F; 5255F; 2852

CT Plasma; Confined plasma; Plasma confinement; Magnetic confinement; Tokamak; JET tokamak; Magnetic confinement fusion; Plasma transport processes; Magnetic barriers; Magnetic shear; Thermonuclear reactors; Plasma flow; Transport properties; Theoretical study

CTFR Plasma; Plasma confine; Confinement plasma; Confinement magnetique; Tokamak; Tokamak JET; Fusion confinement magnetique; Phenomene transport plasma; Barriere magnetique; Cisaillement magnetique; Reacteur fusion nucleaire; Ecoulement plasma; Propriete transport; Etude theorique; 5225F; 5255F; 2852

CTES Plasma confinado; Tokamak; Fusion confinamiento magnetico; Cizallamiento magnetico; Propiedad transporte

L42 ANSWER 45 OF 48 PASCAL COPYRIGHT 2008 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 2001-0257408 PASCAL Full-text

COPYRIGHT NOTICE: Copyright .COPYRG. 2001 INIST-CNRS. All rights reserved.

TITLE (IN ENGLISH): Development of negative ion based NEI system for JT-60U
Proceedings of the Fourteenth Topical Meeting on the Technology of Fusion Energy, Park City, Utah, October 15-19, 2000

AUTHOR: UMEDA N.; AKINO N.; EBISAWA N.; GRISHAM L.; HIKITA S.; HONDA A.; ITOH T.; KAWAI M.; KAZAWA M.; KUSAKA M.; KUSANAGI N.; KURIYAMA M.; LEE P.; MOGAKI K.; OHGA T.; OOHARA H.; SATOH F.; SEKI H.; SEKI N.; TANAI Y.; TOYOKAWA R.; USUI K.; YAMAZAKI H.

CORPORATE SOURCE: Japan Atomic Energy Research Institute, Naka Fusion Research Establishment, 801-1 Mukouyama, Naka-machi, Naka-gun, Ibaraki-ken, 311-0193, Japan; Japan Atomic Energy Research Institute, Naka Fusion Research Establishment, 801-1 Mukouyama, Naka-machi, Naka-gun, Ibaraki-ken, 311-0193, Japan
American Nuclear Society. Idaho. Norcal. Fusion Energy, LaGrange Park, IL 60526, United States (patr.); Atomic Energy Society of Japan. Fusion Engineering, Tokyo 105-0004, Japan (patr.)

SOURCE: Fusion technology, (2001), 39(2, PART2), 1135-1139, 3 refs.

Conference: 14 American Nuclear Society Topical
Meeting on the Technology of Fusion Energy, Park
City, Utah (United States), 15 Oct 2000
ISSN: 0748-1896 CODEN: FUSTE8

DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-19424, 354000098846861480

AN 2001-0257408 PASCAL Full-text

CP Copyright .COPYRG. 2001 INIST-CNRS. All rights reserved.

AB Development for enhancing the beam characteristics in the N-NBI system for JT-60U has been continued since 1996. In order to increase beam power and duration time, a few countermeasures for improvement of source plasma non-uniformity have been tried. The first is changing arc current limiting resistors for changing arc current distribution, the second is regulating filament temperature for altering arc discharge mode, the third is optimizing a magnetic barrier in arc chamber, and the fourth is blocking the beam acceleration at a strongly non-uniform source plasma area by masking both upper and lower edge of plasma grid. All of these countermeasures have been confirmed to be effective.

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CC 001D06D04E; Applied sciences; Energy; Thermal use of fuels; Nuclear power plants, Nuclear reactors
001B50B50G; Physics; Plasma physics
230; Energy

CCFR 001D06D04E; Sciences appliquees; Energie; Utilisation thermique des combustibles; Centrales nucleaires, Reacteurs nucleaires
001B50B50G; Physique; Physique des plasmas
230; Energie

CCES 001D06D04E; Ciencias aplicadas; Energia; Utilizacion termica de los combustibles; Centrales nucleares, Reactores nucleares
001B50B50G; Fisica; Fisica de los plasmas
230; Energia

PAC 2852; 5250G

CT Fusion reactor instrumentation; JT-60U tokamak; Plasma heating; Neutral beam sources; Beam injection heating; Electric arc; Plasma sources; Fusion reactor ignition; Experimental study

CTFR Instrumentation reacteur fusion; Tokamak JT-60U; Chauffage plasma; Source faisceau neutre; Chauffe injection faisceau; Arc electrique; Source plasma; Ignition reacteur nucleaire; Etude experimentale; 2852; 5250G

CTES Calentamiento plasma; Arco electrico; Estudio experimental

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ACCESSION NUMBER: 2001-0301779 PASCAL Full-text

COPYRIGHT NOTICE: Copyright .COPYRG. 2001 INIST-CNRS. All rights reserved.

TITLE (IN ENGLISH): Steady flow micro-reactor module for pipelined DNA computations
DNA computing : Leiden, 13-17 June 2000, revised papers

AUTHOR: MCCASKILL John S.; PENCHOVSKY Robert; GOHLKE Marlies; ACKERMANN Joerg; RUECKER Thomas
CONDON Anne (ed.); ROZENBERG Grzegorz (ed.)

CORPORATE SOURCE: GMD-National Research Center for Information Technology, Schloss Birlinghoven, St. Augustin 53754, Germany, Federal Republic of

SOURCE: Lecture notes in computer science, (2001), 2054,

263-270, 9 refs.

Conference: 6 International workshop on DNA-based computers, Leiden (Germany, Federal Republic of), 13 Jun 2000

ISSN: 0302-9743

ISBN: 3-540-42076-2

Journal; Conference

DOCUMENT TYPE:

BIBLIOGRAPHIC LEVEL:

Analytic

COUNTRY:

Germany, Federal Republic of; United States

LANGUAGE:

English

AVAILABILITY:

INIST-16343, 354000092404000180

AN 2001-0301779 PASCAL Full-text

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AB Microflow reactors provide a means of implementing DNA Computing as a whole, not just individual steps. Contrary to surface based DNA Chips[1], microflow reactors with active components in closed flow systems can be used to integrate complete DNA computations[2]. Microreactors allow complicated flow topologies to be realized which can implement a dataflow-like architecture for the processing of DNA. A technologically feasible scalable approach with many reaction chambers however requires constant hydrodynamic flows. In this work, the experimental construction of a basic constant flow module for DNA processing in such a context is addressed. Limited diffusional exchange in parallel flows is used to establish spatio-temporal segregation of reaction conditions which can be crossed by magnetic beads without barriers. As previously outlined[2], linked up with an optical programming technology, this will enable DNA selection to be programmed and complex population selection to be performed. The basic first experimental step in the realization of this program is described here: the establishment of a stable hydrodynamic flow pattern which is scalable to many reactors in parallel and the demonstration of a scalable and synchronous clocking of magnetic bead-based processing. First results with fluorescently-labeled DNA transfer will also be presented at the conference. The way in which this module may be integrated to solve the maximal clique problem has been proposed elsewhere[2].

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CC 001D02A01; Applied sciences; Theoretical computing

CCFR 001D02A01; Sciences appliquees; Informatique theorique

CCES 001D02A01; Ciencias aplicadas; Informatica teorica

CT Bioreactor; Molecular interaction; DNA; Microfluid; DNA computer

CTFR Bioreacteur; Interaction moleculaire; DNA; Microfluide; Ordinateur ADN

CTES Biorreactor; Interaccion molecular; DNA; Microfluideo

L42 ANSWER 47 OF 48 COMPENDEX COPYRIGHT 2008 EEI on STN

ACCESSION NUMBER: 2004(35):3982 COMPENDEX Full-text

TITLE: Tensile testing and analysis of ferromagnetic elastic strip with a central crack in a uniform magnetic field.

AUTHOR: Shindo, Y. (Department of Materials Processing Graduate School of Engineering Tohoku University, Sendai 980-8579, Japan); Sekiya, D.; Narita, F.; Hohiguchi, K.

SOURCE: Acta Materialia v 52 n 15 Sep 6 2004 2004.p 4677-4684

SOURCE: Acta Materialia v 52 n 15 Sep 6 2004 2004.p 4677-4684

ISSN: 1359-6454

PUBLICATION YEAR:

2004

DOCUMENT TYPE:

Journal

TREATMENT CODE:

Theoretical

LANGUAGE: English

AN 2004(35):3982 COMPENDEX Full-text

AB The effect of magnetic fields on the fracture mechanics parameters such as the stress intensity factor, energy density, etc., is discussed by analyzing the plane strain and plane stress problems of a soft ferromagnetic strip with a central crack under a uniform magnetic field. The problem of an infinitely long soft ferromagnetic elastic strip with a central crack is formulated by means of integral transforms and reduced to the solution of a Fredholm integral equation of the second kind. Numerical values on the fracture mechanics parameters are obtained. Tensile tests are also conducted on center-cracked soft magnetic plate with strain gage technique, and the numerical predictions for the plane stress case are compared with the test results. Agreement between theory and experiment is fair. \$CPY 2004 Acta Materialia Inc. Published by Elsevier Ltd. All rights reserved. 6 Refs.

AN 2004(35):3982 COMPENDEX Full-text

CC 708.4 Magnetic Materials; 422.2 Test Methods; 421 Strength of Building Materials. Mechanical Properties; 701.2 Magnetism: Basic Concepts and Phenomena; 621.2 Fusion Reactors; 408.1 Structural Design (General)

CT *Ferromagnetic materials; Partial differential equations; Fourier transforms; Numerical analysis; Integral equations; Strain; Deformation; Tensile testing; Crack initiation; Magnetic fields; Fracture; Fusion reactors; Stress analysis

ST Theory and modeling; Soft ferromagnetic materials; Magneto-elastic interactions; Crack surface

L42 ANSWER 48 OF 48 COMPENDEX COPYRIGHT 2008 EEI on STN

ACCESSION NUMBER: 1991(3):31799 COMPENDEX Full-text

DOCUMENT NUMBER: 910326574

TITLE: Thin film cloth-structured inductor for magnetic integrated circuit.

AUTHOR: Shirakawa, K. (Amorphous Magnetic Device Lab, Sendai, Japan); Yamaguchi, K.; Hirata, M.; Yamaoka, T.; Takeda, F.; Murakami, K.; Matsuki, H.

MEETING TITLE: 1990 International Magnetism Conference - INTERMAG.

MEETING ORGANIZER: IEEE Magnetism Soc

MEETING LOCATION: Brighton, Engl

MEETING DATE: 17 Apr 1990-20 Apr 1990

SOURCE: IEEE Transactions on Magnetism v 26 n 5 Sep 1990. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA. p 2262-2264

SOURCE: IEEE Transactions on Magnetism v 26 n 5 Sep 1990. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA. p 2262-2264

CODEN: IEMGAQ ISSN: 0018-9464

PUBLICATION YEAR: 1990

MEETING NUMBER: 14086

DOCUMENT TYPE: Journal

TREATMENT CODE: Application; Theoretical; Experimental

LANGUAGE: English

AN 1991(3):31799 COMPENDEX DN 910326574 Full-text

AB A thin-film cloth-structured inductor for MAGIC (magnetic integrated circuit) operation in the high-frequency range is described. To achieve high inductance in a small area, magnetic core arrays with low demagnetizing factor are utilized. To increase the frequency, which is limited by the resonant frequency, the magnetic strip core arrays are divided into three parts and each core array is excited out of phase; that is, the inductor is composed of three unit inductors connected in series with low mutual coupling. Thus, the resonant frequency of the integrated inductor is high, and high-frequency operation is possible. The experimental inductor is 3 multiplied by 3 mm² in

size. The inductance is about 300 nH at 100 MHz, which is about 8 times as large as that of the air-core inductor. High inductance can be easily achieved by increasing the number of strip cores with high permeability. 2 Refs.

AN 1991(3):31799 COMPENDEX DN 910326574 Full-text
 CC 704 Electric Components & Equipment; 701 Electricity & Magnetism; 714
 Electronic Components; 713 Electronic Circuits
 CT *ELECTRIC REACTORS, SATURABLE CORE: Thin Films; MAGNETIC
 CIRCUITS; INTEGRATED CIRCUITS; MAGNETIC CORES; ELECTRIC INDUCTORS
 ST MAGNETIC INTEGRATED CIRCUITS; CLOTH-STRUCTURED INDUCTORS

=> d his nofile

(FILE 'HOME' ENTERED AT 15:42:58 ON 04 SEP 2008)

FILE 'HCAPLUS' ENTERED AT 15:43:09 ON 04 SEP 2008

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L1      1 SEA ABB=ON PLU=ON US20070104624/PN
L2      6955 SEA ABB=ON PLU=ON MICROREACTOR? OR MICRO(A) (REACTOR# OR
      (REACTION#) (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM#
      OR SPACE#))
L3      123 SEA ABB=ON PLU=ON MICROREACTION# (2A) (VESSEL# OR
      CHAMBER# OR TANK# OR SYSTEM# OR SPACE#)
L4      1 SEA ABB=ON PLU=ON L1 AND L2
L5      7004 SEA ABB=ON PLU=ON L2 OR L3
L6      1 SEA ABB=ON PLU=ON L5 AND MAGNET?(A) (STRIP? OR BARRIER?)
L7      155 SEA ABB=ON PLU=ON L5 AND MAGNET?
L8      12 SEA ABB=ON PLU=ON L7 AND (ETCH? OR PATTERN?)
L9      179 SEA ABB=ON PLU=ON L5 AND ?MAGNET?
L10     13 SEA ABB=ON PLU=ON L9 AND (ETCH? OR PATTERN?)
L11     13 SEA ABB=ON PLU=ON L8 OR L10
L12     QUE ABB=ON PLU=ON INLET? OR IN LET? OR OUTLET? OR OUT
      LET?
L13     QUE ABB=ON PLU=ON TUBE# OR TUBING# OR TUBUL? OR TUBAT?
      OR TUBIFORM? OR TUBELIKE? OR PIPE# OR PIPING# OR PIPELI?
      OR PIPEPTE? OR HOSE? OR DUCT? OR CONDUIT? OR CANNULA? OR
      CHANNEL? OR CYLIND? OR ADJUTAG? OR FISTULA?
L14     3 SEA ABB=ON PLU=ON L11 AND L13
L15     2 SEA ABB=ON PLU=ON L11 AND L12
      E REACTORS/CT
L16     269528 SEA ABB=ON PLU=ON REACTORS+PFT,NT/CT
L17     9 SEA ABB=ON PLU=ON L16 AND (MAGNET?(A) (STRIP? OR
      BARRIER?) OR MAGSTRIP? OR MAGBARRIER?)
L18     21 SEA ABB=ON PLU=ON L11 OR L14 OR L15 OR L17
L19     1 SEA ABB=ON PLU=ON L18 AND L1

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FILE 'WPIX' ENTERED AT 16:08:18 ON 04 SEP 2008

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L20     1291 SEA ABB=ON PLU=ON L2 OR L3
L21     0 SEA ABB=ON PLU=ON L20 AND (MAGNET?(A) (STRIP? OR
      BARRIER?) OR MAGSTRIP? OR MAGBARRIER?)
L22     146 SEA ABB=ON PLU=ON L20 AND (ETCH? OR PATTERN?)
L23     44 SEA ABB=ON PLU=ON L22 AND L13
L24     3 SEA ABB=ON PLU=ON L23 AND ?MAGNET?
L25     3 SEA ABB=ON PLU=ON L21 OR L24
L26     1 SEA ABB=ON PLU=ON US20070104624/PN
L27     104 SEA ABB=ON PLU=ON L20 AND ?MAGNET?
L28     48 SEA ABB=ON PLU=ON L27 AND L13
L29     18 SEA ABB=ON PLU=ON (REACTOR? OR REACTION# (2A) (VESSEL#
      OR CHAMBER# OR TANK# OR SYSTEM?)) AND (MAGNET?(A) (STRIP?
      OR BARRIER?) OR MAGSTRIP? OR MAGBARRIER?)
L30     1 SEA ABB=ON PLU=ON L29 AND (ETCH? OR PATTERN?)
L31     3 SEA ABB=ON PLU=ON L29 AND (L12 OR L13)
L32     0 SEA ABB=ON PLU=ON L29 AND LIQUID?
L33     21 SEA ABB=ON PLU=ON L25 OR L29 OR L30 OR L31
L34     21 SEA ABB=ON PLU=ON (REACTOR? OR REACTION# (2A) (VESSEL#
      OR CHAMBER# OR TANK# OR SYSTEM?)) AND (?MAGNET?(A) (STRIP?
      OR BARRIER?) OR ?MAGSTRIP? OR ?MAGBARRIER?)
L35     24 SEA ABB=ON PLU=ON L33 OR L34
L36     7 SEA ABB=ON PLU=ON L35 AND (L12 OR L13)
L37     2 SEA ABB=ON PLU=ON L35 AND LIQUID?

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L38 24 SEA ABB=ON PLU=ON L35 OR L36 OR L37

 FILE 'JAPIO' ENTERED AT 16:20:48 ON 04 SEP 2008
 L39 1 SEA ABB=ON PLU=ON L35 OR L36 OR L37

 FILE 'PASCAL' ENTERED AT 16:23:15 ON 04 SEP 2008
 L40 4 SEA ABB=ON PLU=ON L35 OR L36 OR L37

 FILE 'COMPENDEX' ENTERED AT 16:38:06 ON 04 SEP 2008
 L41 2 SEA ABB=ON PLU=ON L35 OR L36 OR L37

 FILE 'HCAPLUS, WPIX, JAPIO, PASCAL, COMPENDEX' ENTERED AT 16:56:37 ON
 04 SEP 2008
 L42 48 DUP REM L18 L38 L39 L40 L41 (4 DUPLICATES REMOVED)
 ANSWERS '1-21' FROM FILE HCAPLUS
 ANSWERS '22-42' FROM FILE WPIX
 ANSWER '43' FROM FILE JAPIO
 ANSWERS '44-46' FROM FILE PASCAL
 ANSWERS '47-48' FROM FILE COMPENDEX